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      D V M R V A A F T S L L Q I S V S A
      I W W G Y P P S R R C F S S R C P R
      S G G D T R R R V D V S A P D V R V
3'  CCT AGG TGG TAG GCA TGC CGC CGC TTG CAG CTG TCT TCG ACC TAG CTG TGC CTG
      9      18      27      36      45      54
5'  GGA TCC ACC ATC CGT ACG GCG GCG AAC GTC GAC AGA AGC TGG ATC GAC ACG GAC
      G S T I R T A A N V D R S W I D T D
      D P P S V R R R T S T E A G S T R T
      I H H P Y G G E R R Q K L D R H G R

      R A N N L S R R P P R G T V T T L S
      A R T T * R G G R R G G P S P P * R
      R A R Q E A V A E A A E R H R H D V
CGC GCG CGC AAC AAG TCG CTG GCG GAG CCG CCG GAG GGC CAC TGC CAC CAG TTG
      63      72      81      90      99      108
GCG GCG GCG TTG TTC AGC GAC GCG CTC GGC GGC CTC CCG GTG ACG GTG GTC AAC
      A R A L F S D R L G G L P V T V V N
      R A R C S A T A S A A S R * R W S T
      A R V V Q R P P R R P P G D G G Q R

      A S A A P T A S I C K P A P R S R R
      R P R P R R R S A S R R P G R G G
      V R V R G A D G L H V E A R A A V A
CTG CGC CTG CGC CCG CAG CGG CTC TAC GTG AAG CCG CGC CCG GCG CTG GCG
      117      126      135      144      153      162
GAC GCG GAC GCG GCC GGC GTC GCC GAG ATG CAC TTC GGC GCG GGC CGC GAC CGC
      D A D A A G V A E M H F G A G R D R
      T R T R P A S P R C T S A R A A T A
      R G R G R R R R D A L R R G P R P P

      P V T I R R V R P V P P M P L A S N M
      P C R S G G * G R C P C R C R A T *
      P A G H D E E G E A R A D A A R Q E
GCC CCG TGG CAC TAG GAG GAG TGG GAG CCG TGC CCG TAG CCG TCG CGC GAC AAG
      171      180      189      198      207      216
CGG GGC ACC GTG ATC CTC CTC ACC CTC GGC ACG GGC ATC GGC AGC GCG CTG TTC
      R G T V I L L T L G T G I G S A L F
      G A P * S S S P S A R A S A A R C S
      G H R D P P H P R H G H R Q R A V H

      S P A R T G L V S S P W R S S W P W
      R R R G P G W C P A P G G R V G H G
      D V A G Q D G V R L Q A V E F E M A
TAG CTG CCG CGG GAC CAG GGG TTG TGC CTC GAC CCG GTG GAG CTT GAG GTA CCG

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		225			234			243			252			261		270		
ATC	GAC	GGC	GCC	CTG	GTC	CCC	AAC	ACG	GAG	CTG	GGC	CAC	CTC	GAA	CTC	CAT	GGC	
I	D	G	A	L	V	P	N	T	E	L	G	H	L	E	L	H	G	
S	T	A	P	W	S	P	T	R	S	W	A	T	S	N	S	M	A	
R	R	R	P	G	P	Q	H	G	A	G	A	P	P	R	T	P	W	P
S	A	S	F	R	A	E	L	L	A	L	S	S	S	S	S	L	Q	
H	R	R	S	A	R	R	W	C	P	W	P	P	R	P	A	S	S	
M	V	G	L	L	A	G	G	A	L	G	P	L	V	L	L	Q	A	
GTA	CTG	CGG	CTC	TTC	GCG	CGG	AGG	TCG	TTC	CGG	TCC	CTC	CTG	CTC	CTC	GAC	TCG	
		279			288			297			306			315			324	
CAT	GAC	GCC	GAG	AAG	CGC	GCC	TCC	AGC	AAG	GCC	AGG	GAG	GAC	GAG	GAG	CTG	AGC	
H	D	A	E	K	R	A	S	S	K	A	R	E	D	E	E	L	S	
M	T	P	R	S	A	P	P	A	R	P	G	R	T	R	S	*	A	
*	R	R	E	A	R	L	Q	Q	G	Q	G	G	R	G	A	E	L	
S	C	Q	A	R	R	T	W	F	Y	R	A	W	T	S	I	S	N	
P	A	S	P	G	G	R	G	S	T	G	R	G	H	R	S	A	T	
P	L	V	P	G	A	A	D	L	L	V	E	G	M	D	L	H	Q	
ACC	CTC	GTG	ACC	CGG	GCG	GCG	CAG	GTC	TTC	ATG	GAG	CGG	GTA	CAG	CTC	TAC	GAC	
		333			342			351			360			369			378	
TGG	GAG	CAC	TGG	GCC	CGC	CGC	GTC	CAG	AAG	TAC	CTC	GCC	CAT	GTC	GAG	ATG	CTG	
W	E	H	W	A	R	R	V	Q	K	Y	L	A	H	V	E	M	L	
G	S	T	G	P	A	A	S	R	S	T	S	P	M	S	S	R	C	
G	A	L	G	P	P	R	P	E	V	P	R	P	C	R	D	A	V	
E	G	S	S	N	M	M	P	P	P	T	L	R	L	D	W	L	N	
R	G	P	A	T	*	*	R	R	R	P	S	G	C	T	G	C	T	
E	G	R	L	Q	E	D	D	A	A	P	H	A	A	L	G	V	L	
AAG	AGG	GGC	CTC	GAC	AAG	TAG	TAG	CCG	CCG	CCC	CAC	TCG	GCG	TTC	AGG	GTG	TTC	
		387			396			405			414			423			432	
TTC	TCC	CCG	GAG	CTG	TTC	ATC	ATC	GGC	GGG	GTG	AGC	CGC	AAG	TCC	CAC	AAG		
F	S	P	E	L	F	I	I	G	G	G	V	S	R	K	S	H	K	
S	P	R	S	C	S	S	S	A	A	G	*	A	A	S	P	T	S	
L	P	G	A	V	H	H	R	R	R	G	E	P	Q	V	P	Q	V	
R	C	R	M	S	P	M	L	A	S	I	T	G	A	W	S	C	F	
G	A	G	*	R	P	C	*	P	P	S	R	G	P	G	A	A	S	
E	Q	V	E	D	L	A	D	L	R	L	D	D	R	G	L	Q	L	
AAG	GAC	GTG	GAG	TAG	CTC	CCG	TAG	TTC	CGC	CTC	TAG	CAG	GGC	CGG	GTC	GAC	GTC	
		441			450			459			468			477			486	
TTC	CTG	CAC	CTC	ATC	GAG	GGC	ATC	AAG	GCG	GAG	ATC	GTC	CCG	GCC	CAG	CTG	CAG	
F	L	H	L	I	E	G	I	K	A	E	I	V	P	A	Q	L	Q	
S	C	T	S	S	R	A	S	R	R	R	S	S	R	P	S	C	R	
P	A	P	H	R	G	H	Q	G	G	D	R	P	G	P	A	A	E	
L	A	P	I	T	P	A	A	I	R	A	A	S	F	S	P	*	A	
C	R	R	S	R	R	P	P	S	A	P	P	P	S	P	R	S	P	

V	V	G	P	D	P	P	R	R	H	P	R	R	L	L	R	V	A	L
TTG	TTG	CGG	CCC	TAG	CAG	CCC	CGC	CGC	TAC	GCC	CGC	CGC	CTC	TTC	CTG	CCG	ATC	
		495			504			513			522		531				540	
AAC	AAC	GCC	GGG	ATC	GTC	GGG	GCG	GCG	ATG	CGG	GCG	GCG	GAG	AAG	GAC	GGC	TAG	
N	N	A	G	I	V	G	A	A	M	R	A	A	E	K	D	G	*	
T	T	P	G	S	S	G	R	R	C	G	R	R	R	R	T	A	R	
Q	R	R	D	R	R	G	G	D	A	G	G	G	E	G	R	L	G	
G	R	R	R	P	S	G	S	S	L	A	Q	R	R	D	G	P	G	
G	A	V	G	P	H	D	L	R	C	P	R	A	A	T	V	Q	V	
G	R	S	A	P	T	I	W	V	V	P	G	P	P	P	*	R	S	
CGG	GGC	GCT	GCG	GCC	CCA	CTA	GGT	CTG	CTG	TCC	CGG	ACC	GCC	GCC	AGT	GGA	CCT	
		549			558			567			576		585				594	
GCC	CCG	CGA	CGC	CGG	GGT	GAT	CCA	GAC	GAC	AGG	GCC	TGG	CGG	CGG	TCA	CCT	GGA	
A	P	R	R	A	G	D	P	D	D	R	A	W	R	R	S	P	G	
P	R	D	A	R	G	V	I	Q	T	T	G	P	G	G	G	H	D	
P	A	T	P	G	*	S	R	R	Q	G	L	A	A	V	T	W	T	
A	A	P	R	P	G	A	P	W	C	G	S	R	G	H	P	*	S	
P	P	P	G	R	G	Q	P	G	A	A	P	D	E	T	R	D	R	
R	R	R	A	A	A	R	R	A	L	L	R	I	K	R	A	T	V	
GGC	CGC	CGC	CCG	GCG	CCG	GGA	CGC	CCG	GTC	GTC	GGC	CTA	GAA	GGC	ACG	CCA	GTG	
		603			612			621			630		639				648	
CCG	CGC	CGC	GGC	GCG	GGC	CCT	GCG	GGC	CAG	CAG	CCG	GAT	CTT	CCG	TGC	GGT	CAC	
P	A	A	G	R	G	P	A	G	Q	Q	P	D	L	P	C	G	H	
R	R	R	A	A	A	L	R	A	S	S	R	I	F	R	A	V	T	
G	G	G	P	R	P	C	G	P	A	A	G	S	S	V	R	S	R	
S	V	P	S	*	R	G	E	T	C	G	G	P	R	P	P	S	P	
H	S	R	R	D	A	D	R	R	V	A	V	R	G	P	H	R	P	
I	L	G	A	I	L	T	G	G	Y	L	W	G	A	Q	T	A	L	
CTA	CTC	TGG	CCG	CTA	GTC	GCA	GGG	AGG	CAT	GTC	GGT	GGG	CCG	GAC	CCA	CCG	CTC	
		657			666			675			684		693				702	
GAT	GAG	ACC	GGC	GAT	CAG	CGT	CCC	TCC	GTA	CAG	CCA	CCC	GGC	CTG	GGT	GGC	GAG	
D	E	T	G	D	Q	R	P	S	V	Q	P	P	G	L	G	G	E	
M	R	P	A	I	S	V	P	P	Y	S	H	P	A	W	V	A	R	
*	D	R	R	S	A	S	L	R	T	A	T	R	P	G	W	R	G	
P	S	S	G	W	*	T	D	A	S	G	G	A	A	T	P	W	R	
R	H	L	A	G	D	P	T	R	R	D	G	R	R	Q	R	G	G	
A	T	F	L	G	M	L	H	G	G	I	G	G	G	S	D	A	V	
CCG	CCA	CTT	CTC	GGG	GTA	GTC	CAC	AGG	CGG	CTA	GGG	GGG	CGG	CGA	CAG	CCG	GTG	
		711			720			729			738		747				756	
GGC	GGT	GAA	GAG	CCC	CAT	CAG	GTG	TCC	GCC	GAT	CCC	CCC	GCC	GCT	GTC	GGC	CAC	
G	G	E	E	P	H	Q	V	S	A	D	P	P	A	A	V	G	H	
A	V	K	S	P	I	R	C	P	P	I	P	P	P	L	S	A	T	
R	*	R	A	P	S	G	V	R	R	S	P	R	R	C	R	P	P	

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C	W	G	W	P	S	P	S	R	Y	W	W	R	R	P	R	W	T					
A	G	A	G	R	R	L	P	R	D	T	G	G	G	R	R	D	G	P				
P	V	L	G	V	A	F	A	I	P	V	V	V	P	A	T	A	L					
---																						
GCC	GTG	765	GTC	GGG	GTG	774	CCG	CTT	CCG	CTA	783	GCC	ATG	GTG	792	GTG	GCC	GCG	CCA	GCG	GTC	810
CGG	CAC	CAG	CCC	CAC	GGC	GAA	GGC	GAT	CGG	TAC	CAC	CAC	CGG	CGC	GGT	CGC	CAG					
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R	H	Q	P	H	G	E	G	D	R	Y	H	H	R	R	G	R	Q					
G	T	S	P	T	A	K	A	I	G	T	T	T	G	A	V	A	R					
A	P	A	P	R	R	R	R	S	V	P	P	P	A	R	S	P	G					
---																						
A	G	A	C	G	C	R	R	*	S	A	C	P	C	S	C	C	A					
R	G	Q	A	G	V	G	G	D	P	R	V	R	A	P	V	A	R					
D	G	R	R	V	W	V	A	T	L	V	C	V	P	L	F	L	V					
---																						
CAG	CGG	GGA	CGC	GTG	GGT	GTG	GCG	GCA	GTC	CTG	CGT	GTG	CCC	GTC	CTT	GTC	GTG					
		819			828			837			846			855			864					
GTC	GCC	CCT	GCG	CAC	CCA	CAC	CGC	CGT	CAG	GAC	GCA	CAC	GGG	CAG	GAA	CAG	CAC					
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V	A	P	A	H	P	H	R	R	Q	D	A	H	G	Q	E	Q	H					
S	P	L	R	T	H	T	A	V	R	T	H	T	G	R	N	S	T					
R	P	C	A	P	T	P	P	S	G	R	T	R	A	G	T	A	R					
---																						
T	C	R	S	R	R	G	S	C	C	R	T	S	T	A	S	C	S					
Q	V	A	H	A	V	V	R	V	A	A	L	R	P	L	R	A	P					
S	Y	L	T	L	S	S	G	F	L	L	S	D	L	Y	G	L	L					
---																						
CGA	CAT	GTC	GCA	CTC	GCT	GCT	GGG	CTT	GTC	GTC	GCT	CAG	CTC	CAT	CGG	CTC	GTC					
		873			882			891			900			909			918					
GCT	GTA	CAG	CGT	GAG	CGA	CGA	CCC	GAA	CAG	CAG	CGA	GTC	GAG	GTA	GCC	GAG	CAG					
---																						
A	V	Q	R	E	R	R	P	E	Q	Q	R	V	E	V	A	E	Q					
L	Y	S	V	S	D	D	P	N	S	S	E	S	R	*	P	S	R					
C	T	A	*	A	T	T	R	T	A	A	S	R	G	S	R	A	G					
---																						
C	*	P	A	A	S	C	A	A	A	W	G	P	*	G	P	T	P					
A	D	R	R	R	L	V	P	R	R	G	A	R	D	A	P	P	Q					
L	M	V	A	G	C	F	L	G	G	G	L	G	T	L	R	P	N					
---																						
CTC	GTA	GTG	CCG	CGG	CGT	CTT	GTC	CGG	CGG	CGG	GTC	GGG	CCA	GTC	GGC	CCC	CAA					
		927			936			945			954			963			972					
GAG	CAT	CAC	GGC	GCC	GCA	GAA	CAG	GCC	GCC	GCC	CAG	CCC	GGT	CAG	CCG	GGG	GTT					
---																						
E	H	H	G	A	A	E	Q	A	A	A	Q	P	G	Q	P	G	V					
S	I	T	A	P	Q	N	R	P	P	P	S	P	V	S	R	G	L					
A	S	R	R	R	R	T	G	R	R	P	A	R	S	A	G	G	W					
---																						
F	G	A	C	P	R	P	R	P	P	R	G	P	A	G	Y	R	R					
S	V	P	A	P	G	P	G	R	P	A	A	R	P	A	T	G	G					
P	F	R	R	L	A	Q	A	A	P	P	P	G	P	R	R	V	A					
---																						
CCC	TTT	GGC	CGC	GTC	CCG	GAC	CCG	GCG	CCC	CCC	GCC	GGG	CCC	CGC	GGC	ATG	GCG					
		981			990			999			1008			1017			1026					
GGG	AAA	CCG	GCG	CAG	GGC	CTG	GGC	CGC	GGG	GGG	CGG	CCC	GGG	GCG	CCG	TAC	CGC					
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G K P A Q G L G A R G G A P P G A P R Y T R  
 G N R R R A W A G G A G A R G A V P A  
 E T G A G P G P R G A R G A V P A  
 P R R P R V P R V L A A S P S P G P  
 R A V P G C P G Y W P P A P P R A P  
 A P S P A A R A T G P R R Q P V P R  
 GCG CCC GCT GCC CCG GCG TGC CCG GCA TGG TCC CGC CGC GAC CCC CTG CCC GGC  
 1035 1044 1053 1062 1071 1080  
 CGC GGG CGA CGG GGC CGC ACG GGC CGT ACC AGG GCG GCG CTG GGG GAC GGG CCG  
 R G R R G R T G R T R A A L G D G P  
 A G D G A A R A V P G R R W G T G R  
 R A T G P H G P Y Q G G A W G G R A G  
 P A P P G P R S P P G P P G P P G A  
 H L P R A P V A P R A Q L V P R A L  
 T S R A P R S P Q A P R S S R A P W  
 CCA CCT CGC CCG CCC GGC CCT GCC GAC CCG CCC GGA CCT CCT GGC CCG CCC GGT  
 1089 1098 1107 1116 1125 1134  
 GGT GGA GCG GGC GGG CCG GGA CCG CTG GGC GGG CCT GGA GGA CCG GGC GGG CCA  
 G G A G G P G R L G G P G G P G G P  
 V E R A G R D G W A G L E D R A G Q  
 W S G R A G T A G R A W R T G R A S  
 T G A R V A G A A R S V A T A A R R  
 R G P G S R E R R A R F R R R R A G  
 G D R G P G S G G R A F G G D G R A  
 CGG CAG GGC CGG GCC TGG CGA GGG CGG CGC GCG CTT TGG CGG CAG CGG CGC GCG  
 1143 1152 1161 1170 1179 1188  
 GCC GTC CCG GCC CGG ACC GCT CCC GCC GCG CGC GAA ACC GCC GTC GCC GCG CCG  
 A V P A R T A P A A R E T A V A A R  
 P S R P G P L P P R A K P P S P R A  
 R P G P D R S R R A R N R R R R A P  
 V A G A Q F S D A G A E S C V T K V  
 C R E R R S H T R E R R A A Y R R \*  
 A G S G G P I L G S G G R Q M G D E  
 GCG TGG CGA GGG CGG ACC TTA CTC AGG CGA GGG CGG AGC GAC GTA TGG CAG AAG  
 1197 1215 1224 1233 1242  
 CGC ACC GCT CCC GCC TGG AAT GAG TCC GCT CCC GCC TCG CTG CAT ACC GTC TTC  
 R T A P A W N E S A P A S L H T V F  
 A P L P P G M S P L P P R C I P S S  
 H R S R L E \* V R S R L A A Y R L H  
 G G R V A A G A A L S V G G V G R R  
 G A G C R R G R R S R C G A W G A G  
 G R G A G G G G G R A V G R G G R A  
 TGG GGC GGG GCG TGG CGG CGG GGG CCG CCG TCG CTG TGG GGC GGG TGG GGC GCG

1251 1260 1269 1269 1287 1296  
 ACC CCG CCC CGC ACC GCC GCC CCC GCC GCG AGC GAC ACC CCG CCC ACC CCG CGC  
 ---  
 T P P R T A A P A A S D T P P T P R  
 P P P A P P P P R A T P P P P A P  
 P A P H R R P R R E R H P A H P P A P  
 ---  
 R R R C R R R R L T D R K T G P L D  
 G A V A V A D A Y R T A S R V R C T  
 A Q S P L P T P T A H R A E Y G A P  
 ---  
 GCG GAC GCT GCC GTT GCC GCA GCC GCA TCG CAC AGC GCG AAG CAT GGG CCG TCC  
 1305 1314 1323 1332 1341 1350  
 CGC CTG CGA CGG CAA CGG CGT CGG AGC GTG TCG CGC TTC GTA CCC GGC AGG  
 ---  
 R L R R Q R R R R S V S R F V P G R  
 A C D G N G V G V A C R A S Y P A G  
 P A T A T A S A \* R V A L R T R Q V  
 ---  
 R G T H S W Q V L K P R S I H R I A  
 A D Q T A G S S W S L D A \* T G F R  
 R T R H P E V P G V \* T P K H A S D  
 ---  
 AGC GCA GGA CAC ACC GAG GTG ACC TGG TTG AAT CCA GCC GAA TAC ACG GCT TAG  
 1359 1368 1377 1386 1395 1404  
 TCG CGT CCT GTG TGG CTC CAC TGG ACC AAC TTA GGT CGG CTT ATG TGC CGA ATC  
 ---  
 S R P V W L H W T N L G R L M C R I  
 R V L C G S T G P T \* V G L C A E S  
 A S C V A P L D Q L R S A Y V P N R  
 ---  
 W \* V R R P A S R P W T N S V A G P  
 G D S V G H P P G Q G H T R Y P V P  
 G M L C A T P R V K A M H E I R C R  
 ---  
 CGG GTA GTC TGT GCG GCA CCC CGC CTG GAA CCG GTA CAC AAG CTA TGC CGT GGC  
 1413 1422 1431 1440 1449 1458  
 GCC CAT CAG ACA CGC CGT GGG GCG GAC CTT GGC CAT GTG TTC GAT ACG GCA CCG  
 ---  
 A H Q T R R G A D L G H V F D T A P  
 P I R H A V G R T L A M C S I R H R  
 P S D T P W G G P W P C V R Y G T G  
 ---  
 G P G A R R L S T S R G T R R C \* R  
 A P D P V G Y V P P D A R A D A D D  
 P R T R C A T S Q H I P G H T Q M M  
 ---  
 CCC GGC CCA GGC CGT GCG GCA TCT GAC CAC CTA GCC GGG CAC GCA GAC GTA GTA  
 1467 1476 1485 1494 1503 1512  
 GGG CCG GGT CCG GCA CGC CGT AGA CTG GTG GAT CGG CCC GTG CGT CTG CAT CAT  
 ---  
 G P G P A R R R L V D R P V R L H H  
 G R V R H A V D W W I G P C V C I I  
 A G S G T P \* T G G S A R A S A S S  
 ---  
 C R L D F F S R A G A W G A R F D E  
 A G F I S S P G P G L G A L G S T R

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Q V S R S R L L V P G W G Q L G  
 GAC GTG GCT TCT AGC TTC TTC CTG GCC CGG GGT CGG GTC GGT CGG GAC TTC AGG  
 1521 1530 1539 1548 1557 1566  
 CTG CAC CGA AGA TCG AAG AAG GAC CGG GCC CCA GCC CAG CCA GCC CTG AAG TCC  
 L H R R S K K D R A P A Q P A L K S  
 C T E D S R R R T G P Q P S Q P \* S P  
 A P K I E E G P G P S P A S P E V L  
 \* T R S T A V H R E R D S D D T Q R  
 E R V P L R L T D S V I P I T P R G  
 R V Y P F D C R T A \* S R F R R D A  
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 1575 1584 1593 1602 1611 1620  
 TCT CAC GTA CGG GAA GTC GCA ACG TGT CGC TCA CGA TCG GAA TCG TCG GTC TGC  
 S H V R E V A T C R S R S E S S V C  
 L T Y G K S Q R V A H D R N R R S A  
 S R T G S R N V S L T I G I V G L P  
 I D A L R G Q E V G Q G L V V H Q R  
 F T P L D V R N L A R V L F S T S A  
 S H R C T S G T \* R G S W S R R A P  
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 1629 1638 1647 1656 1665 1674  
 CGA ATG TCG GCA AGT CGA CCC TGT TCA ACG CCC TGA CCA AGA ACG ACG TGC TGG  
 R M S A S R P C S T P \* P R T T C W  
 E C R Q V D P V Q R P D Q E R R A G  
 N V G K S T L F N A L T K N D V L A  
 G V V R E G R D L G V D T D H A D G  
 A L \* G N A V I S G L T P T T P T G  
 P W S G T R W S R A W R R H R P R G  
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 V C A E G L Q G L D E G G L A D E R  
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 R R V G \* W T P R S R R R G A C G G  
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R G D V E D V D G A D H A A G G L P  
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 P S R R S R R C R R C R A R R R R P  
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 CGG CGA CCG TCG ACT TCG TCG ACA TCG CCG GCA TCG TGC GCG GCG CCT CCG AGG  
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 R R P S T S S T S P A S C A A P P R  
 G D R R L R R H R A H R A R R L R G  
 A T V D F V D I A G I V R G A S E G  
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 P P G P C C T G R S C G H T R R S R  
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 G R A W A T S S S R T S V S P T R S  
 G G P G Q Q V P R E H P \* V R R D L  
 E G L G N K F L A N I R E S D A I C  
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 W T M R A K L S S F T T W T S P L T  
 G P \* G R R \* P R S R R G H R R C P  
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 1899 1908 1917 1926 1935 1944  
 GCC AGG TCA TCC GCG CCT TCA AGG ACG AGA ACG TCG TCC ATG TCG ACG GCA AGG  
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 Q V I R A F K D E N V V H V D G K V  
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 S P K D D I E T I N T E L I L A D L  
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S R R S S C R R T R R G S R R  
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 V E R R L H L G D L L G L L D Q L P  
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 P G R A S P S P R R P P W P S G P S  
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 R G R R P W R G \* R W A P P R G R R  
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 E V V V L G E F E E L G D A L V L G  
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 Q R G A R L F G A G P G D L L A G G  
 R V A P G F S D R A Q V M L F P A V  
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 L T A G P K E S R A W T I K K G A T  
 G G L G G A D D V G V E L L A E D L  
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P P P P R R R \* R G P F S S R R R R P  
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 A E V I S F T D L V E T G S V A E A  
 A R L P L R T H L A L V I H H L V P  
 R A F P F A R I S P L S \* T I C S P  
 G R S P S P A Y P P C P S H S A P R  
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 P R E G E G A Y G G Q G L C D A G R  
 R A K G K A R M E G K D Y V M Q D G  
 V H D L E A E V H L R L E V V V S S  
 S T T S N R K L T Y A C N W W S A A  
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 G R G R V P L Q R V G A I P P R R C  
 D V V E F R F N V \* A Q F H H D A A  
 E F A C T L L P R S R W P A A G Q Q  
 K L R A P \* F P D V G G P P P G K S  
 K \* V R L D S P T S E E L P R G R A  
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 L S N A Q V R R G R L L Q G A A P C  
 F Q T R R S E G V D S S R G R P L A  
 F K R A G Q K G S T P P G G G P L L  
 K G H Q S P A P F A S \* G D T K A R  
 N G T S P H H Q S L Q D D M L R Q G  
 T E R A P I T S P F S I M W \* D K G  
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 C F P C W D G A G K A D H P S V F A  
 V S R A G M V L G K L I I H Q S L P  
 F P V L G W C W E S \* S S I S L C P

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G S S T L L P V N N P V V Q P F P D  
 A P P H \* S H Y T I L Y W K L S P T  
 Q R L I D L T T R \* \* T G S S P L P  
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 GAC GGC CTC CTA CAG TTC TCA CCA TGC AAT AAT CCA TGG TGA ACT CCC TTC CCC  
 2817 2826 2835 2844 2853 2862  
 CTG CCG GAG GAT GTC AAG AGT GGT ACG TTA TTA GGT ACC ACT TGA GGG AAG GGG  
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 L P E D V K S G T L L G T T \* G K G  
 C R R M S R V V R Y \* V P L E G R G  
 A R G C Q E W Y V I R Y H L R E G V  
 ---  
 F \* T S L G R A F G C P E R E A S \*  
 S D H R Y V A L S A A L S E K R Q D  
 R I M D I F R S R L R L A R K G S I  
 ---  
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 TCG AAT CAT GTC GAT AAA CCG CGA GCG AAG CCG CAA GGC TCT CTT TCC GCT GAT  
 ---  
 S N H V D K P R A K P Q G S L S A D  
 R I (M) S I N R E R S R K A L F P L I x2  
 E S C R \* T A S E A A R L S F R \* S  
 ---  
 S P \* R C D R P W R S R R W A R C R  
 L L D V V I V L G D L D D G L V A V  
 L F T L S L \* S A M S I T E L C P L  
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 R R T R L G R G L C S A A R G L V P  
 A V L V S A E D Y A A L R E G S Y L  
 P Y S S R P R I M Q R C A R A R T C  
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 Q A R R R V G T S Q E L R V L V G K  
 S R E G A F A R R S S L A Y S F A R  
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A L A L S G G R P S T A Q G V R E N A L P  
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 G R \* H T P A P A S R D P N P P R Q  
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 A W T L T D S R S S I S G S E A S A  
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 P E P A A H P K D E L I L A P I V V  
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 G S G A A \* G L S S R I R A G M T T  
 V R V P R E A C L R G S G L G \* L H  
 ---  
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 T R A \* S R G C S A R G C \* C A \* R  
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 L V D P A V G E R P D A F G L R Q L  
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 E D V R R D P F T G I G K P E P L K  
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 G R Q A R P L H G D R Q T R A A E V  
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 P G Y G Q G D R D P R C P V P L L T  
 G L H D E R A P I T S P H A G R V R  
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 D V S A G G S S V V N V P L Q R L G  
 M F P Q V G A L \* L M F R F N V \* A  
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 C I W W T T K N F A C T L P T R S M  
 A S G G R R T S H A P \* L P G V \*  
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 Q I H H V V L L N A Q V R G V R L I  
 S D P G Q S K G T G G A S Q S N S L  
 P T P G R A R E R A E P L S P T A \*

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R L R A G P E K G H R R C V P L Q E
AGC CTC AGC CCG GGG ACC GAG AAA GGG CAC GGA GGC CGT CTG ACC CTC AAC GAG
3573 3582 3591 3600 3609 3618
TCG GAG TCG GGC CCC TGG CTC TTT CCC GTG CCT CCG GCA GAC TGG GAG TTG CTC
-----
S E S G P W L F P V P P A D W E L L
R S R A P G S F P C L R Q T G S C S
G V G P L A L S R A S G R L G V A Q

* * R G I P C Y P G T W L A L A S W
D D G A S R A T P G Q G S R W R P G
T M V Q R D P L L A R D L A G A R V
-----
TCA GTA GTG GAC GGC TAG CCC GTC ATC CCG GGA CAG GTC TCG CGG TCG CGC CTG
3627 3636 3645 3654 3663 3672
AGT CAT CAC CTG CCG ATC GGG CAG TAG GGC CCT GTC CAG AGC GCC AGC GCG GAC
-----
S H H L P I G Q * G P V Q S A S A D
V I T C R S G S R A L S R A P A R T
S S P A D R A V G P C P E R Q R G P

N S P I M Q R D T G T L I E A D A H
T P L S * R A T R V P S S R P T P T
L Q F P D D P P G Y R H P D R R R
-----
GTC AAC CTT CCC TAG TAG ACC GCC AGG CAT GGC CAC TCC TAG AGC CGC AGC CGC
3681 3690 3699 3708 3717 3726
CAG TTG GAA GGG ATC ATC TGG CCG TCC GTA CCG GTG AGG ATC TCG GCG TCG GCG
-----
Q L E G I I W R S V P V R I S A S A
S W K G S S G G P Y R * G S R R R R
V G R D H L A V R T G E D L G V G V

T G F R A L T F C H A G G S F C F E
P A S A P W P S A T P A A P S A S S
P H R L P G P H L L P R R R L L L V
-----
ACC CAC GGC TTC GCC CGG TCC CAC TTC GTC ACC CGC GGC GGC CTC TTC GTC TTG
3735 3744 3753 3762 3771 3780
TGG GTG CCG AAG CGG GCC AGG GTG AAG CAG TGG GCG CCG CCG GAG AAG CAG AAC
-----
W V P K R A R V K Q W A P P E K Q N
G C R S G P G * S S G R R R R S R T
G A E A G Q G E A V G A A G E A E L

S A P P L D G I R E R F T A R R G V
A P R P C T A S A N A S R P A D A *
R Q G P A P R R H T R P V H R T P R
-----
AGC GAC CGG CCC CCG TCC AGC GGC TAC GCA AGC GCC TTG CAC CGC GCA GCC GGA
3789 3798 3807 3816 3825 3834
TCG CTG GCC GGG GGC AGG TCG CCG ATG CGT TCG CGG AAC GTG GCG CGT CGG CCT
-----
S L A G G R S P M R S R N V A R R P
R W P G A G R R C V R G T W R V G L
A G R G Q V A D A F A E R G A S A Y

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      G   I   L   W   A   A   T   L   R   S   R   W   E   Y   G   L   L   A
      A   S   *   G   P   P   P   S   A   H   A   G   S   Y   A   S   S   P
      R   R   D   A   L   R   R   H   P   T   L   A   V   R   L   R   P   P
-----
TGC GGC TAG TCG GTC CGC CGC CAC TCC GCA CTC GCG GTG AGC ATC GGC TCC TCC
    3843      3852      3861      3870      3879      3888
ACG CCG ATC AGC CAG GCG GCG GTG AGG CGT GAG CGC CAC TCG TAG CCG AGG AGG
-----
      T   P   I   S   Q   A   A   V   R   R   E   R   H   S   *   P   R   R
      R   R   S   A   R   R   R   *   G   V   S   A   T   R   S   R   G   G
      A   D   Q   P   G   G   G   E   A   *   A   P   L   V   A   E   E   G
-----
      E   W   E   A   H   T   I   T   A   A   D   D   I   L   H   R   T   F
      R   G   S   P   M   P   S   R   P   Q   T   T   S   S   T   V   P   S
      G   G   V   R   C   P   H   D   H   S   R   R   R   H   P   S   P   H
-----
CGG AGG GTG AGC CGT ACC CAC TAG CAC CGA CGC AGC AGC TAC TCC ACT GCC CAC
    3897      3906      3915      3924      3933      3942
GCC TCC CAC TCG GCA TGG GTG ATC GTG GCT GCG TCG TCG ATG AGG TGA CCG GTG
-----
      A   S   H   S   A   W   V   I   V   A   A   S   S   M   R   *   R   V
      P   P   T   R   H   G   *   S   W   L   R   R   R   *   G   D   G   *
      L   P   L   G   M   G   D   R   G   C   V   V   D   E   V   T   G   E
-----
      R   E   A   H   P   W   G   P   R   L   V   R   G   S   K   L   D   R
      A   N   P   T   P   G   G   P   G   C   S   A   V   A   K   *   T   A
      L   T   R   R   P   A   V   R   A   A   P   R   S   R   K   E   P   R
-----
TTC GCA AGC CCG ACC CCG GTG GGC CCG GCG TCC TGC GCT GGC GAA AAG TCC AGC
    3951      3960      3969      3978      3987      3996
AAG CGT TCG GCG TGG GGC CAC CCG GGC CGC AGG ACG CGA CCG CTT TTC AGG TCG
-----
      K   R   S   A   W   G   H   P   G   R   R   T   R   P   L   F   R   S
      S   V   R   R   G   A   T   R   A   A   G   R   D   R   F   S   G   R
      A   F   G   V   G   P   P   G   P   Q   D   A   T   A   F   Q   V   A
-----
      C   R   P   R   D   S   D   K   S   T   V   Y   R   E   S   I   V   Y   G
      A   A   R   A   T   R   T   R   A   R   *   T   A   S   S   *   T   A
      P   L   A   P   P   G   L   G   Q   E   D   R   L   A   R   D   R   L
-----
GCC GTC GCG CCC GCC AGG CTC AGG AAC GAG CAG TGC ATC GCG AGC TAG TGC ATC
    4005      4014      4023      4032      4041      4050
CGG CAG CGC GGG CGG TCC GAG TCC TTG CTC GTC ACG TAG CGC TCG ATC ACG TAG
-----
      R   Q   R   G   R   S   E   S   L   L   V   T   *   R   S   I   T   *
      G   S   A   G   G   P   S   P   C   S   S   R   S   A   R   S   R   S
      A   A   R   A   V   R   V   L   A   R   H   V   A   L   D   H   V   A
-----
      Y   G   S   E   E   S   H   Q   F   P   M   P   W   R   E   P   Y   L
      T   A   A   R   R   P   T   S   S   R   C   R   G   G   R   R   T   C
      R   L   R   E   G   R   L   A   P   V   A   D   A   V   E   G   P   V
-----
GGC ATC GGC GAG AGG AGC CTC ACG ACC TTG CCG TAG CCG GTG GAG AGG CCC ATG
    4059      4068      4077      4086      4095      4104
CCG TAG CCG CTC TCC TCG GAG TGC TGG AAC GGC ATC GGC CAC CTC TCC GGG TAC
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P \* P L S S E C W N G I G H L S G Y  
 R S A R S P R S A G E T A S A T S P G T  
 V A A L L R G V L E R A H R P P L R V Q  
  
 D T R D I W T P A V F I S G G V P A  
 I P V T S G P P P S S S A A A P P  
 S R Y P R D L H P R R L H Q R R R P  
 TCT AGC CAT GCC AGC TAG GTC CAC CCC CGC TGC TTC TAC GAC GGC GGC TGC CCC  
 4113 4122 4131 4140 4149 4158  
 AGA TCG GTA CGG TCG ATC CAG GTG GGG GCG ACG AAG ATG CTG CCG CCG ACG GGG  
 ---  
 R S V R S I Q V G A T K M L P P T G  
 D R Y G R S R W G R R R C C R R R G  
 I G T V D P G G G D E D A A A D G G  
 ---  
 E S A E L L S W T H S E E V L H E W  
 K P P K W C P G P T P S K S W T N G  
 S R L S G A P V L H P V R R G P T G  
 ---  
 CGA AGC CTC CGA AGG TCG TCC CTG GTC CAC ACC CTG AGA AGC TGG TCC ACA AGG  
 4167 4176 4185 4194 4203 4212  
 GCT TCG GAG GCT TCC AGC AGG GAC CAG GTG TGG GAC TCT TCG ACC AGG TGT TCC  
 ---  
 A S E A S S R D Q V W D S S T R C S  
 L R R L P A G T R C G T L R P G V P  
 F G G F Q Q G P G V G L F D Q V F P  
 ---  
 P A S W D L E W D L G T G S I G Y T  
 P R A G T S N G T W A P A P S A T R  
 L A R E L R T G L G P R H R L H R V  
 GTC CCG CGC GAG GTC AGC TCA AGG GTC AGG TCC GGC CAC GGC CTC TAC GGC ATG  
 4221 4230 4239 4248 4257 4266  
 CAG GGC GCG CTC CAG TCG AGT TCC CAG TCC AGG CCG GTG CCG GAG ATG CCG TAC  
 ---  
 Q G A L Q S S S Q S R P V P E M P Y  
 R A R S S R V P S P G R C R R C R T  
 G R A P V E F P V Q A G A G D A V R  
 ---  
 R D A D V R W F R S H L I Q A H D  
 A T P T W G G S G P T S S \* K P T T x4  
 H P R R G G A L V P L P P D S P R P  
 ---  
 CAC GCC AGC CGC AGG TGG GCG GTC TTG GCC CTC ACC TCC TAG TGA ACC CGC ACC  
 4275 4284 4293 4302 4311 4320  
 GTG CGG TCG GCG TCC ACC CGC CAG AAC CGG GAG TGG AGG ATC ACT TGG GCG TGG  
 ---  
 V R S A S T R Q N R E W R I T W A W  
 C G R R P P A R T G S G G S L G R G  
 A V G V H P P E P G V E D H L G V V  
 ---  
 A L D N I I E T F H A P A S N P \* P  
 P W T T S S R P S T P P R R T R D P  
 R G P R Q H D R H L P R A G L E T L  
 ---  
 AGC CGG TCC AGC AAC TAC TAG AGC CAC TTC ACC CGC CCG CGG CTC AAG CCA GTC

4329 4338 4347 4356 4374  
 TCG GCC AGG TCG TTG ATG ATC TCG GTG AAG TGG GCG GGC GCC GAG TTC GGT CAG  
 ---  
 S A R S L M I S V K W A G A E F G Q  
 R P G R \* S R \* S G R A P S S V R  
 G Q V V D D L G E V G G R R V R S G  
 ---  
 G A G M G Q R Q P R \* R G A P R D P  
 G R A W E R V S P D D A D L L A I L  
 A G R G N G S A P T T L T W C P S \*  
 ---  
 CCG GGG CGC GGG TAA GGG ACT GCG ACC CCA GCA GTC GCA GGT CGT CCC GCT AGT  
 4383 4392 4401 4410 4419 4428  
 GGC CCC GCG CCC ATT CCC TGA CGC TGG GGT CGT CAG CGT CCA GCA GGG CGA TCA  
 ---  
 G P A P I P \* R W G R Q R P A G R S  
 A P R P F P D A G V V S V Q Q G D Q  
 P R A H S L T L G S S A S S R A I R  
 ---  
 R P L L T P R S G R R L G R H R D A  
 A P C C R P D A V E E F V E I A T L  
 P P A A A H T Q \* R K S S R S P P \*  
 ---  
 CCC GCC CCG TCG TCG CAC CCA GAC GAT GGA GAA GCT TCT GGA GCT ACC GCC AGT  
 4437 4446 4455 4464 4473 4482  
 GGG CGG GGC AGC AGC GTG GGT CTG CTA CCT CTT CGA AGA CCT CGA TGG CGG TCA  
 ---  
 G R G S S V G L L P L R R P R W R S  
 G G A A A W V C Y L F E D L D G G Q  
 A G Q Q R G S A T S S K T S M A V S  
 ---  
 P R L Q G P Y A A R R H D Y P N R \*  
 R G F S G L T P L G G I I T L I A D  
 G A S A A W P L C G A S S R L S Q T  
 ---  
 CGG CCG GCT TCG ACG GGT CCC ATC CGT CGG GCG GCT ACT AGC ATT CCT AAC GCA  
 4491 4500 4509 4518 4527 4536  
 GCC GGC CGA AGC TGC CCA GGG TAG GCA GCC CGC CGA TGA TCG TAA GGA TTG CGT  
 ---  
 A G R S C P G \* A A R R \* S \* G L R  
 P A E A A Q G R Q P A D D R K D C V  
 R P K L P R V G S P P M I V R I A S  
 ---  
 S R H R G A A R P R R I L R R R R R  
 R G I D V L Q A R A A Y S A D D D G  
 V V S T S W S R A P P T H P T T T A  
 ---  
 GTG CTG GCT ACA GCT GGT CGA CGC GCG CCC GCC GCA TAC TCC GCA GCA GCG  
 4545 4554 4563 4572 4581 4590  
 CAC GAC CGA TGT CGA CCA GCT GCG CGC GGG CGG CGT ATG AGG CGT CGT CGT CGC  
 ---  
 H D R C R P A A R G R R M R R R R R  
 T T D V D Q L R A G G V \* G V V V A  
 R P M S T S C A R A A Y E A S S S P  
 ---  
 R A A P R P D R H P P D H H A P H G  
 D L Q Q V L T E I H P T T T R R T A

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T	S	S	S	S	S	P	R	S	T	P	P	R	P	A	G	P	P
GCA	GCT	CGA	CGA	CCT	GCT	CCC	AGA	GCT	ACA	CCC	CCC	AGC	ACC	ACG	CGG	CCC	ACC
	4599			4608				4617			4626			4635			4644
CGT	CGA	GCT	GCT	GGA	CGA	GGG	TCT	CGA	TGT	GGG	GGG	TCG	TGG	TGC	GCC	GGG	TGG
R	R	A	A	G	R	G	S	R	C	G	G	S	W	C	A	G	W
V	E	L	L	D	E	G	L	D	V	G	G	R	G	A	P	G	G
S	S	C	W	T	R	V	S	M	W	G	V	V	V	R	R	V	A
H	R	W	L	H	P	A	V	L	L	A	G	P	P	R	R	A	V
M	V	G	S	T	P	L	W	W	C	L	A	P	R	D	P	W	
W	S	A	L	P	P	S	G	G	A	S	R	A	R	T	T	P	G
GGT	ACT	GCG	GTC	TCC	ACC	CCT	CGG	TGG	TCG	TCT	CGC	GGC	CCG	CCA	GCA	GCC	CGG
	4653			4662				4671			4680			4689			4698
CCA	TGA	CGC	CAG	AGG	TGG	GGA	GCC	ACC	AGC	AGA	GCG	CCG	GGC	GGT	CGT	CGG	GCC
P	*	R	Q	R	W	G	A	T	S	R	A	P	G	G	R	R	A
H	D	A	R	G	G	E	P	P	A	E	R	R	A	V	V	G	P
M	T	P	E	V	G	S	H	Q	Q	S	A	G	R	S	S	G	H
P	R	P	G	R	S	G	P	R	R	L	P	R	T	D	P	R	R
P	A	R	D	E	A	A	R	D	E	F	P	A	R	T	L	D	V
R	P	A	T	R	P	Q	G	T	K	S	P	P	A	H	*	T	S
TGC	CCC	GCG	CCA	GGA	GCC	GAC	GGG	CCA	GAA	GCT	TCC	CCC	GCG	CAC	AGT	CCA	GCT
	4707			4716				4725			4734			4743			4752
ACG	GGG	CGC	GGT	CCT	CGG	CTG	CCC	GGT	CTT	CGA	AGG	GGG	CGC	GTG	TCA	GGT	CGA
T	G	R	G	P	R	L	P	G	L	R	R	G	R	V	S	G	R
R	G	A	V	L	G	C	P	V	F	E	G	G	A	C	Q	V	D
G	A	R	S	S	A	A	R	S	S	K	G	A	R	V	R	S	T
P	A	L	R	P	R	A	A	R	G	R	G	A	P	P	R	V	A
P	R	W	A	P	D	L	P	E	D	E	A	P	P	R	V	Y	R
P	A	G	P	P	T	S	R	S	T	R	P	R	R	A	S	T	G
GCC	CCG	CGG	TCC	GCC	CCA	GCT	CGC	CGA	GCA	GGA	GCC	GGC	CGC	CCG	CCT	GCA	TGG
	4761			4770				4779			4788			4797			4806
CGG	GGC	GCC	AGG	CGG	GGT	CGA	GCG	GCT	CGT	CCT	CGG	CCG	GCG	GGC	GGA	CGT	ACC
R	G	A	R	R	G	R	A	A	R	P	R	P	A	G	G	R	T
G	A	P	G	G	V	E	R	L	V	L	G	R	R	A	D	V	P
G	R	Q	A	G	S	S	G	S	S	S	A	G	G	R	T	Y	R
S	R	A	P	R	L	A	C	Q	D	R	A	V	D	R	C	G	G
R	G	H	Q	A	C	P	A	N	I	G	H	S	T	Ⓟ	A	A	G
G	V	T	S	P	A	P	R	M	S	G	T	R	R	*	P	L	G
CGG	CTG	GCA	CGA	CCC	GCG	TCC	CGC	GTA	ACT	AGG	GCA	CGC	TGC	AGT	GCC	GTC	GGG
	4815			4824				4833			4842			4851			4860
GCC	GAC	CGT	GCT	GGG	GCG	AGG	GCG	CAT	TGA	TCC	CGT	GCG	ACG	TCA	CGG	CAG	CCC
A	D	R	A	G	R	R	A	H	*	S	R	A	T	S	R	Q	P
P	T	V	L	G	A	G	R	I	D	P	V	R	R	H	G	S	P
R	P	C	W	A	Q	G	A	L	I	P	C	D	V	T	A	A	P

P R G \* P P A R L \* K T L A L L P L  
 Q G A E L R P A C D N Q L H W S R F  
 R A P R L A P R A T M K Y T G P A S  
 ---  
 GGA CCG GCC GGA GTT CCG CCC CGC GCG TCA GTA AAA CAT TCA CGG TCC TCG CCT  
 4869 4878 4887 4896 4905 4914  
 CCT GGC CGG CCT CAA GGC GGG GCG CGC AGT CAT TTT GTA AGT GCC AGG AGC GGA  
 ---  
 P G R P Q G G A R S H F V S A R S G  
 L A G L K A G R A V I L \* V P G A E  
 W P A S R R G A Q S F C K C Q E R K  
 ---  
 Y A G E F P L I V H L A S A P P E A  
 I P E K S H C S \* T S L P R R R S P  
 S L S R R I A L D R P S R V G A A R  
 ---  
 TCT ATC CGA GGA AGC TTA CCG TTC TAG TGC ACC TCT CGC CTG CGG CCG CCG AGC  
 4923 4932 4941 4950 4959 4968  
 AGA TAG GCT CCT TCG AAT GGC AAG ATC ACG TGG AGA GCG GAC GCC GGC GGC TCG  
 ---  
 R \* A P S N G K I T W R A D A G G S  
 D R L L R (M) A R S R G E R T P A A R  
 I G S F E W Q D H V E S G R R R L G  
 ---  
 S \* R V C R E N G A T A P V A R C G  
 P D G \* A V S T E L P L C Q E A V  
 R I V E R L A R K W C H C A S S P L  
 ---  
 CGC CTA GTG GAG TGC GTT GCG AGC AAA GGT CGT CAC CGT CCG TGA CGA GCC GTT  
 4977 4986 4995 5004 5013 5022  
 GCG GAT CAC CTC ACG CAA GCG TCG TTT CCA GCA GTG GCA GGC ACT GCT CGG CAA  
 ---  
 A D H L T Q R S F P A V A G T A R Q  
 R I T S R N A R F Q Q W Q A L L G N  
 G S P H A T L V S S S G R H C S A T  
 ---  
 C C A C A R R H T G P S P L G G S R  
 A V L A R A G T L E Q H H S D A R D  
 R L L R V R A P S N R T I P T R G I  
 ---  
 GGC GTT GTT CGC GTG CGC GCG GCC ACT CAA GGA CCA CTA CCC TCA GGC GGG CTA  
 5031 5040 5049 5058 5067 5076  
 CCG CAA CAA GCG CAC GCG CGC CGG TGA GTT CCT GGT GAT GGG AGT CCG CCC GAT  
 ---  
 P Q Q A H A R R \* V P G D G S P P D  
 R N K R T R A G E F L V M G V R P I  
 A T S A R A P V S S W \* W E S A R S  
 ---  
 A R P P A R S A R V C A G R R R V A  
 R E R H L V A P G Y A R E E V V S L  
 E S A T S C P Q G T R V S R \* S P C  
 ---  
 GAG CGA GCG CCA CCT CGT GCC GAC CGG GCA TGC GTG CGA GGA GAT GCT GCC TGT  
 5085 5094 5103 5112 5121 5130  
 CTC GCT CCG GGT GGA GCA CGG CTG GCC CGT ACG CAC GCT CCT CTA CGA CGG ACA

R6



L S A R G G A R L A P V R T H A P L Y R R G T  
 S L A V E H G L W P Y R T L V L Y R D R Q  
 R S R W S T A G P Y A R S S T T D S  
 P A T S T P A P A E E Y P A S P A S  
 P L Q R L P L K K T R H P P L L  
 R S S D F H A R S S R R V T R V S C  
 CGC CCT CGA CAG CTT CAC CCG CGC CCT CGA AGA AGC ATG CCA CGC CTG CCT CGT  
 5139 5148 5157 5166 5175 5184  
 GCG GGA GCT GTC GAA GTG GGC GCG GGA GCT TCT TCG TAC GGT GCG GAC GGA GCA  
 A G A V E V G A G A S S Y G A D G A  
 R E L S K W A R E L L R T V R T E Q  
 G S C R S G R G S F F V R C G R S R  
 R S P G P G A S P A P P S S R P G A  
 D R H G R V Q Q H L Q P L S L V L G R  
 I A I A G S R S I S S P S F F S A G  
 CTA GCG CTA CCG GGG CCT GGA CGA CTA CCT CGA CCC CCT CTT CTT GCT CCG GGG  
 5193 5202 5211 5220 5229 5238  
 GAT GCG GAT GGC CCC GGA CCT GCT GAT GGA GCT GGG GGA GAA GAA CGA GGC CCC  
 D R D G P G P A D G A G G E E R G P  
 I A M A P D L L M E L G E K N E A P  
 S R W P R T C \* W S W G R R T R P R  
 R P R R R P S A R R R V G R G S G P  
 G L D D G D H L H G G V V E V P D R  
 G S T T A T T S I G A S S R S R I G  
 CGG GCT CCA GCA GCG GCA GCA CCT CTA CGG GCG GCT GCT GGA GCT GGC CTA GGG  
 5247 5256 5265 5274 5283 5292  
 GCC CGA GGT CGT GCG CGT CGT GGA GAT GCC CGC CGA CGA CCT CGA CCG GAT CCC  
 A R G V R R R V G D A R R R P R P D P  
 P E V V A V V E M P A D D L D R I P  
 P R S S P S W R C P P T T S T G S R  
 G P P S G P R V T R G A S W D P S C  
 D P L V E Q A Y Q E V P R G T R P V  
 T R S S K R P T S N S R G V L G P F  
 CCA GGC CCT CCT GAA GGA CCC GCA TGA CAA GCT GGC CGG CTG GTC AGG CCC CTT  
 5301 5310 5319 5328 5337 5346  
 GGT CCG GGA GGA CTT CCT GGG CGT ACT GTT CGA CCG GCC GAC CAG TCC GGG GAA  
 G P R G G L P G R T V R P A D Q S G E  
 V R E D F L G V L F D R P P T S P G N  
 S G R T S W A Y C S T G R P V R G T  
 R C C \* E S P P H G P R A R A S R P  
 D A A D N A R R I G Q A R V P Q D H  
 M P L M M R E A S A R P A C P S I T  
 GTA GCC GTC GTA GTA AGC GAG CCG CCT ACG GGA CCC GCG CGT GCC CGA CTA GCA

5355			5364			5373			5382			5391			5400		
CAT	CGG	CAG	CAT	CAT	TCG	CTC	GGC	GGA	TGC	CCT	GGG	CGC	GCA	CGG	GCT	GAT	CGT
H	R	Q	H	H	S	L	G	G	C	P	G	R	A	R	A	D	R
I	G	S	I	I	R	S	A	D	A	L	G	A	H	G	L	I	V
S	A	A	S	F	A	R	R	M	P	W	A	R	T	G	*	S	W
-----																	
P	A	R	R	R	R	R	R	G	S	I	P	G	T	S	C	R	S
R	P	V	G	G	V	D	V	V	R	F	R	D	P	R	A	G	A
A	P	C	A	A	S	T	*	S	G	F	D	T	R	D	L	V	P
-----																	
CCG	CCC	CGT	GCG	GCT	GCA	GAT	GCT	GGG	CTT	TAG	CCA	GGC	CAG	CTC	GTG	GCC	
5409		5418		5427		5436		5445		5454							
GGC	GGG	GCA	CGC	CGC	CGA	CGT	CTA	CGA	CCC	GAA	ATC	GGT	CCG	GTC	GAG	CAC	CGG
-----																	
G	G	A	R	R	R	R	L	R	P	E	I	G	P	V	E	H	R
A	G	H	A	A	D	V	Y	D	P	K	S	V	R	S	S	T	G
R	G	T	P	P	T	S	T	T	R	N	R	S	G	R	A	P	A
-----																	
A	T	R	G	A	R	R	G	P	A	T	V	P	R	P	S	P	S
R	Q	E	G	Q	G	G	D	P	H	R	*	R	A	L	H	V	V
E	S	N	E	R	G	A	T	R	T	G	D	G	P	S	T	I	S
-----																	
GAG	CGA	CAA	GAG	GGA	CGG	GCG	GCA	GGC	CCA	CGG	CAG	TGG	CCC	GCT	CCA	CTA	CCT
5463		5472		5481		5490		5499		5508							
CTC	GCT	GTT	CTC	CCT	GCC	CGC	CGT	CCG	GGT	GCC	GTC	ACC	GGG	CGA	GGT	GAT	GGA
-----																	
L	A	V	L	P	A	R	R	P	G	A	V	T	G	R	G	D	G
S	L	F	S	L	P	A	V	R	V	P	S	P	G	E	V	M	D
R	C	S	P	C	P	P	S	G	C	R	H	R	A	R	*	W	T
-----																	
P	P	P	G	G	P	R	R	C	A	S	R	G	P	R	Y	P	R
P	H	L	G	A	P	G	G	A	R	R	D	D	Q	D	T	R	V
Q	T	S	A	R	A	A	P	V	G	I	T	R	T	P	V	S	
-----																	
GAC	CCA	CCT	CCG	GGC	GGC	CCG	GCG	GCC	GTG	CGG	CTA	GCA	GGA	CCA	GCC	ATG	CCT
5517		5526		5535		5544		5553		5562							
CTG	GGT	GGA	GGC	CCG	CCG	GGC	CGC	CGG	CAC	GCC	GAT	CGT	CCT	GGT	CGG	TAC	GGA
-----																	
L	V	G	G	P	P	G	R	R	H	A	D	R	P	G	R	Y	G
W	V	E	A	R	R	A	A	G	T	P	I	V	L	V	G	T	D
G	W	R	P	A	G	P	P	A	R	R	S	S	V	W	S	V	R
-----																	
A	R	R	S	R	H	T	R	S	R	S	*	G	A	S	G	A	A
L	V	A	V	A	I	H	E	V	E	V	E	G	L	R	G	Q	Q
S	C	P	S	Q	S	T	N	S	K	S	K	V	W	G	V	R	S
-----																	
GCT	CGT	GCC	GCT	GAC	GCT	ACA	CAA	GCT	GAA	GCT	GAA	GTG	GGT	CGG	CTG	GGA	CGA
5571		5580		5589		5598		5607		5616							
CGA	GCA	CGG	CGA	CTG	CGA	TGT	GTT	CGA	CTT	CGA	CTT	CAC	CCA	GCC	GAC	CCT	GCT
-----																	
R	A	R	R	L	R	C	V	R	L	R	L	H	P	A	D	P	A
E	H	G	D	C	D	V	F	D	F	D	F	T	Q	P	T	L	L
S	T	A	T	A	M	C	S	T	S	T	S	T	S	P	S	R	P
-----																	
S	R	C	H	S	L	R	A	*	C	R	R	A	Y	T	T	R	S
Q	D	A	I	L	C	G	P	E	A	V	G	P	T	R	Q	A	V

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S I P L S V A P S L L A Q R V N H S
CGA CTA GCC GTT ACT CTG TCG GCC CGA GTC GTT ACG GAC CGC ATG CAA CAC GCT
5625 5634 5643 5652 5661 5670
GCT GAT CGG CAA TGA GAC AGC CGG GCT CAG CAA CGC CTG GCG TAC GTT GTG CGA

A D R Q * D S R A Q Q R L A Y V V R
L I G N E T A G L S N A W R T L C D
* S A M R Q P G S A T P G V R C A T

C P * C G S P R S R S S A S R P S R
V R D A D R H G A G R A R Q V R R V
* V T L M G I A P E A L E S F A R F

GAT GTG CCA GTC GTA GGG CTA CCG GCC GAG GCG CTC GAG CGA CTT GCG CCG CTT
5679 5688 5697 5706 5715 5724
CTA CAC GGT CAG CAT CCC GAT GGC CGG CTC CGC GAG CTC GCT GAA CGC GGC GAA

L H G Q H P D G R L R E L A E R G E
Y T V S I P M A G S A S S L N A A N
T R S A S R W P A P R A R * T R R T

R S R S G R R L P V A A S * R F F R
G R G R D E V F R Y P L P D A S S G
A A V A I R * S A T R C R I L P L V

CGC GCG CTG GCG CTA GGA GAT GCT TCG CCA TGC CGT CGC CTA GTC GCC TTC TTG
5733 5742 5751 5760 5769 5778
CGC GCG GAC CGC GAT CCT CTA CGA AGC GGT ACG GCA GCG GAT CAG CGG AAG AAC

R R D R D P L R S G T A A D Q R K N
A A T A I L Y E A V R Q R I S G E R T
P R P R S S T K R Y G S G S A E E P

L L E R L L R P Y N Y R A R A R D Q
C C S G S C G P T T G P G R G T R
A V V G Q A A P P L Q V Q G A G P G

CGC TTG TTG AGG GAC TCG TCG GCC CCC ATC AAC ATG GAC CGG GCG CGG GCC AGG
5787 5796 5805 5814 5823 5832
CGC AAC AAC TCC CTG AGC AGC CGG GGG TAG TTG TAC CTG GCC CGC GCC CGG TCC

R N N S L S S R G * (L) Y L A R A R S
A T T P * A A G G S C T W P A P G P
Q Q L P E Q P G V V V P G P R P V L

I R G V I E A H R E F D G A L R G L
S G G W S R R T G S S T A Q W V A W
P D A G R D G R A A R L R R G S P G

ACC TAG GCG GGG TGC TAG AGG CGC ACG GCG AGC TTC AGC GGA CGG TCT GCC GGG
5841 5850 5859 5868 5877 5886
TGG ATC CGC CCC ACG ATC TCC GCG TGC CGC TCG AAG TCG CCT GCC AGA CGG CCC

W I R P T I S A C R S K S P A R P
G S A P R S P R A A R S R L P D G P
D P P H D L R V P L E V A C Q T A Q

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x6

T A A P D S G L T L A E V D G E Y V  
 R P L P T R A W R \* L R S T V R T C  
 A H C R P G L G A D S G R R \* G R V  
 ---  
 TCG CAC CGT CGC CCC AGG CTC GGG TCG CAG TCT CGG AGC TGC AGT GGG AGC ATG  
 5895 5904 5913 5922 5931 5940  
 AGC GTG GCA GCG GGG TCC GAG CCC AGC GTC AGA GCC TCG ACG TCA CCC TCG TAC  
 ---  
 S V A A G S E P S V R A S T S P S Y  
 A W Q R G P S P A S E P R R H P R T  
 R G S G V R A Q R Q S L D V T L V H  
 ---  
 S S M F E A E P P L V P L S G S A L  
 P P C S N R K P R C C R C P A R V S  
 R L V H I G S R A A G A P L G V R  
 ---  
 TGC CTC CTG TAC TTA AGG CGA AGC CCG CCG TCG TGG CCG TCC CTC GGG CTG CGC  
 5949 5958 5967 5976 5985 5994  
 ACG GAG GAC ATG AAT TCC GCT TCG GGC GGC AGC ACC GGC AGG GAG CCC GAC GCG  
 ---  
 T E D M N S A S G G S T G R E P D A  
 R R T \* I P L R A A A P A G S P T R  
 G G H E F R F G R Q H R Q G A R R E  
 ---  
 T E L M R A T F L G T D A V L P S V  
 R K S C G P R S C G R T P W S R A S  
 A N R A D P G H V A G H R G R A P Q  
 ---  
 TCG CAA AGC TCG TAG GCC CGG CAC TTG TCG GGG CAC AGC CGG TGC TCG CCC GAC  
 6003 6012 6021 6030 6039 6048  
 AGC GTT TCG AGC ATC CGG GCC GTG AAC AGC CCC GTG TCG GCC ACG AGC GGG CTG  
 ---  
 S V S S I R A V N S P V S A T S G L  
 A F R A S G P \* T A P C R P R A G \*  
 R F E H P G R E Q P R V G H E R A D  
 ---  
 L V P T I V A R G M E T V V H G F P  
 W C R R S S P G D W R P S S M D S R  
 G A G A H H R G T G D R H R C T R V  
 ---  
 TGG TCG TGG CCG CAC TAC TGC CGG GCA GGG TAG AGC CAC TGC TGT ACA GGC TTG  
 6057 6066 6075 6084 6093 6102  
 ACC AGC ACC GGC GTG ATG ACG GCC CGT CCC ATC TCG GTG ACG ACA TGT CCG AAC  
 ---  
 T S A T G V M T A R P I S V T T C P N  
 P A P A \* \* R P V P S R \* R H V R T  
 Q H R R D D G P S H L G D D M S E R  
 ---  
 V P P Q V E V G S \* G N R S G R L H  
 C R R S S R S A A E A T G A G A S T  
 A G A A P G R R R K L R E P E R P P  
 ---  
 CCG TGG CCG CCG ACC TGG AGC TGC GGC GAA GTC GGC AAG GCC GAG GGC GCC TCC  
 6111 6120 6129 6138 6147 6156  
 GGC ACC GGC GGC TGG ACC TCG ACG CCG CTT CAG CCG TTC CGG CTC CCG CGG AGG  
 ---

G T G G W T S T P L Q F F R L P R G R  
A P A A G P R R F S R S G S P R G G  
H R R L D L D A A S A V P A P A E V

H G R L R P L D G R G V V A R L G S  
I D E F A P C T E G D W W R G C V R  
S T R S A P A P R G T G G G A S G

ACT ACA GGA GCT TCG GCC CCG TCC AGA GGG GCA GGG TGG TGG CGG GCG TCT GGG  
6165 6174 6183 6192 6201 6210  
TGA TGT CCT CGA AGC CGG GGC AGG TCT CCC CGT CCC ACC ACC GCC CGC AGA CCC

\* C P R S R G R S P R P T T A R R P  
D V L E A G A G L P V P P P P A D P  
(M) S S K P G Q V S P S H H R P Q T R X7

D A A A P G T Q R G G R G R H V A E  
I R R L R A Q R A E V V E I F P K  
F G G C G P R D P P R W S R S S R S

CTT AGG CGG CGT CGG CCC GGA CAG ACC GCC GGA GGT GCT GGA GCT ACT TGC CGA  
6219 6228 6237 6246 6255 6264  
GAA TCC GCC GCA GCC GGG CCT GTC TGG CGG CCT CCA CGA CCT CGA TGA ACG GCT

E S A A A G P V W R P P R P R \* T A  
N P P Q P G L S G G L H D L D E R L  
I R R S R A C L A A S T T S M N G F

V A G L Q Q R H V A A R L G A G S R  
W R G W N S G I Y Q L E Y D R E P G  
G G G T A A S T S C S T D G S R V

AGG TGG CGG GGG TCA ACG ACG GCT ACA TGA CGT CGA GCA TCA GGG CGA GGC CTG  
6273 6282 6291 6300 6309 6318  
TCC ACC GCC CCC AGT TGC TGC CGA TGT ACT GCA GCT CGT AGT CCC GCT CCG GAC

S T A P P S C A C R C T A A R S P A P D  
P P P P V A A D V L Q L V V P L R T  
H R P Q L L P M Y C S S \* S R S G P

A G T S A T G A P A N R F L P L V R  
L E R P H R V L Q P M G F C P F F E  
S S G H I G Y W S P C E S V P S S S

GCT CGA GGG CAC CTA CGG CAT GGT CGA CCC CGT AAG GCT TTG TCC CCT TCT TGA  
6327 6336 6345 6354 6363 6372  
CGA GCT CCC GTG GAT GCC GTA CCA GCT GGG GCA TTC CGA AAC AGG GGA AGA ACT

R A P V D A V P A G A F R N R G R T  
E L P W M P Y Q L G H S E T G E E L  
S S R G C R T S W G I P K Q G K N S

G R R A L P G D V Q A A P R P R Q A  
A G D P L P G T L K P Q L V L D S L  
P G T P C P A R \* S P S C S S T A S

GCC GGG GCA GCC CGT TCC CCG GGC AGT TGA ACC CGA CGT CCT GCT CCA GCG ACT

6381 6390 6399 6408 6417 6426  
 CGG CCC CGT CGG GCA AGG GGC CCG TCA ACT TGG GCT GCA GGA CGA GGT CGC TGA  
 R P R R A R G P S T W A A G R G R \*  
 G P V G Q G A R Q L G L Q D E V A E  
 A P S G K G P V N L G C R T R S L S  
 R L L A T A L E R D L P H R R S L Q R  
 A S Y L R R W N E I S H T G V S S D  
 R P T S G D G I R S R T P A S P A T  
 CGC GCC TCA TCT CGG CAG CGG TTA AGA GCT AGC TCA CCC ACG GCT GCC TCG ACA  
 6435 6444 6453 6462 6471 6480  
 CGC CGG AGT AGA GCC GTC GCC AAT TCT CGA TCG AGT GGG TGC CGA CGG AGC TGT  
 A R S R A V A N S R S S G C R R S C  
 R G V E P S P I L D R V G A D G A V  
 A E \* S R R Q F S I E W V P T E L S  
 R R H R C R G L P R \* F D I I L R R  
 D A T A V G G L H G D S I S \* \* A G  
 T P P P S V A W T A T L F R N D P A  
 GCA GCC GCC ACC GCT GTG GCG GGT TCA CCG GCA GTC TTT AGC TAA TAG TCC GCG  
 6489 6498 6507 6516 6525 6534  
 CGT CGG CGG TGG CGA CAC GCG CCA AGT GGC CGT CAG AAA TCG ATT ATC AGG CGC  
 R R R W R H R P S G R Q K S I I R R  
 V G G G D T A Q V A V R N R L S G A  
 S A (V) A T P P K W P S E I D Y Q A P X8  
 D R P F S C A L E I Q E D S L Y Q R  
 T G P F R A P W N S R S T R C I S G  
 P G Q S V L L G T R D A R G V S V A  
 GCC AGG GAC CCT TTG CTC GTC CGG TCA AGC TAG ACG AGC AGG CTG TCT ATG ACG  
 6543 6552 6561 6570 6579 6588  
 CGG TCC CTG GGA AAC GAG CAG GCC AGT TCG ATC TGC TCG TCC GAC AGA TAC TGC  
 R S L G N E Q A S S I C S S D R Y C  
 G P W E T S R P V R S A R P T D T A  
 V P G K R A G Q F D L L V R Q I L P  
 A E F M F V L H T G W R V D P E V P  
 P R S C S C L I H E G A C T R S W R  
 P G R V H V C S T N G L A R G A G G  
 GCC CGG AGC TTG TAC TTG TGT TCT ACA CAA GGG GTC GCG TGC AGG CCG AGG TGG  
 6597 6606 6615 6624 6633 6642  
 CGG GCC TCG AAC ATG AAC ACA AGA TGT GTT CCC CAG CGC ACG TCC GGC TCC ACC  
 R A S N M N T R C V P Q R T S G S T  
 G P R T \* T Q D V F P S A R P A P P  
 G L E H E H K M C S P A H V R L H R  
 L H R P I Q E D M R S L A G S V R V  
 F I G R S R S T W G R F R A A S G S

S S A A P D A R G D A F A R R Q G P  
CCT TCT ACG GCG CCC TAG ACG AGC AGG TAG GCG CTT TCG GCG GGC GAC TGG GCC  
6651 6660 6669 6678 6687 6696  
GGA AGA TGC GCG GGG ATC TGC TCG TCC ATC GCG GAA AGC GCG CCG CTG ACC CGG  
-----  
G R C R G I C S S I R E S A P L T R  
E D A A G S A R P S A K A R R \* P G  
K M P R D L L V H P R K R A A D P D  
-----  
E C G A E G A A E V Y A A V T Q S F  
R V A R K V R R W M P P L P R A S  
G \* L G S \* G G G C L R C R D P Q  
-----  
TGG AGT GTC GGG CGA AGT GGG CGG CGG AGG TGT ATC GCG CGT TGC CAG ACC GAC  
6705 6714 6723 6732 6741 6750  
ACC TCA CAG CCC GCT TCA CCC GCC GCC TCC ACA TAG GCG GCA ACG GTC TGG CTG  
-----  
T S Q P A S P A A S T \* A A T V W L  
P H S P L H P P P P H R R Q R S G \*  
L T A R F T R R L H I G G N G L A E  
-----  
G A Q W H L N G A V L V R A E A M G  
D R R G I F I G P \* S C G P K R W E  
I G G A L S S E R S R A G P S G G N  
-----  
TTA GGG CGG ACG GTT ACT TCT AAG GGC CGA TGC TCG TGG GCC CGA AGG CGG TAA  
6759 6768 6777 6786 6795 6804  
AAT CCC GGC TGC CAA TGA AGA TTC CCG GCT ACG AGC ACC CGG GCT TCC GCC ATT  
-----  
N P A C Q \* R F P A T S T R A S A I  
I P P A N E D S R L R A P G L P P F  
S R L P M K I P G Y E H P G F R H S  
-----  
G E W P C V Q L W W Q R Q S D L S F  
A R G L V C R Y G G S A S H T \* P F  
R G G L S V G T A V V P A T L R P F  
-----  
GGC GGG AGG GTT CCT GTG TGG ACA TCG GTG GTG ACC GCG ACA CTC AGA TCC CTT  
6813 6822 6831 6840 6849 6858  
CCG CCC TCC CAA GGA CAC ACC TGT AGC CAC CAC TGG GCG TGT GAG TCT AGG GAA  
-----  
P P S Q G H T C S A H H W R C E S S R E  
R P P K D T P V A T T G A V S L G K  
A L P R T H L \* P P L A L \* V \* G K  
-----  
S S P F C Q H F C Q L F C Q P C F E  
P V P S V S T F V S S F V S P V F N  
L F Q P F V P S F V P S F V P S L I  
-----  
TTC CTT GAC CCC TTT GTG ACC ACT TTT GTG ACC TCT TTT GTG ACC CCT GTT TTA  
6867 6876 6885 6894 6903 6912  
AAG GAA CTG GGG AAA CAC TGG TGA AAA CAC TGG AGA AAA CAC TGG GGA CAA AAT  
-----  
K E L G K H W \* K H W R K H W G Q N  
R N W G N T G E N T G E N T G D K I  
G T G E T L V K T L E K T L G T K F

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      A P V A A * P G A E L V D A A R V L
      L R S R Q E P A Q R W C T P Q G S W
      * G P G S S L P R G G A R R S G P G
      ---
AGT CGG CCC TGG CGA CGA GTC CCC GGA CGG AGG TCG TGC AGC CGA CGG GCC TGG
      6921          6930          6939          6948          6957          6966
TCA GCC GGG ACC GCT GCT CAG GGG CCT GCC TCC AGC ACG TCG GCT GCC CGG ACC
      ---
      S A G T A A Q G P A S S T S A A R T
      Q P G P L L R G L P P A R R L P G P
      S R D R C S G A C L Q H V G C P D Q
      ---
      V A S R T G I K L R E L A K V P A V
      Y P R A P A S R * G S W P R * P L W
      T R G L P H R D E A A G P G K R S G
      ---
TCA TGC CGG CTC GCC CAC GGC TAG AAG TCG GCG AGG TCC CGG AAA TGC CCT CGG
      6975          6984          6993          7002          7011          7020
AGT ACG GCC GAG CGG GTG CCG ATC TTC AGC CGC TCC AGG GCC TTT ACG GGA GCC
      ---
      S T A E R V P I F S R S R A F T G A
      V R P S G C R S S A A P G P L R E P
      Y G R A G A D L Q P L Q G L Y G S H
      ---
      P I K R S R D T V A I V A H A P L A
      R S R V A A T P S P S * R M R P C R
      G P D * P Q P R H R R D G C A R A A
      ---
TGG CCC TAG AAT GCC GAC GCC AGC CAC TGC CGC TAG TGG CGT ACG CGC CCG TCG
      7029          7038          7047          7056          7065          7074
ACC GGG ATC TTA CGG CTG CGG TCG GTG ACG GCG ATC ACC GCA TGC GCG GGC AGC
      ---
      T G I L R L R S V T A I T A C A G S
      P G S Y G C G R * R R S P H A R A A
      R D L T A A V G D G D H R M R G Q R
      ---
      S A L S R L L A R W R S R P C R G K
      R R S R A C C P G G A A A R A G A R
      G V R A L A A P G A V P Q A P V Q G
      ---
CGG CTG CGC TCG CTC GCG TCG TCC CGG GCG GTG GCC GAC GCG CCC GTG GAC GGG
      7083          7092          7101          7110          7119          7128
GCC GAC GCG AGC GAG CGC AGC AGG GCC CGC CAC CGG CTG CGC GGG CAC CTG CCC
      ---
      A D A S E R S R A R H R L R G H L P
      P T R A S A A G P A T G C A G T C P
      R R E R A A Q Q G P P P A A R A P A L
      ---
      G T R A S G Y P L D A L V V D P A S
      G L A H A G T R C T P W C S M P R P
      E W H T R E R V A P R G A R C R A R
      ---
AAG GGT CAC GCA GCG GAG GGC ATG CCG TCC AGC CGG TCG TGC TGT AGC CCG CGC
      7137          7146          7155          7164          7173          7182
TTC CCA GTG CGT GCG CTC CCG TAC GGC AGG TCG GCC AGC ACG ACA TCG GGC GCG
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F P V R A L P Y G R S A P T H S G A  
 S Q C V R R S R A G R S P A R H R A R  
 P S A C A P V R Q V G Q H D I G R G  
 G A L V A S L A R P D F V D A T R I  
 G P R S P P C R V R I S L T R P A S  
 V R R P R R V A C A S R L R G R H P  
 ---  
 CTG GGC CGC TCC TGC CGC CTG TCG CGT GCG CCT AGC TTC TGC AGG CGC CAC GCC  
 7191 7200 7209 7218 7227 7236  
 GAC CCG GCG AGG ACG GCG GAC AGC GCA CGC GGA TCG AAG ACG TCC GCG GTG CGG  
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 D P A R T A D S A R G S K T S A V R  
 T R R G R R T A H A D R R R P R C G  
 P G E D G G Q R T R I E D V R G A D  
 A C P L A G G E A T L R E R L R R A  
 P A R C R V A R R R \* A S G C G A P  
 H R V A A C R G G G D P A G A A P P  
 ---  
 TAC CGC GTG CCG TCG CGT GGC GGG AGG CGG CAG TCC GCG AGG GCG TCG GCC GCC  
 7245 7254 7263 7272 7281 7290  
 ATG GCG CAC GGC AGC GCA CCG CCC TCC GCC GTC AGG CGC TCC CGC AGC CGG CGG  
 ---  
 M A H G S A P P S A V R R S R S R R  
 W R T A A H R P P P S G A P A A G G  
 G A R Q R T A L R R Q A L P Q P A G  
 A Q A A E L Y S P K G F R E S Q E R  
 P R R P R W I P P S A S V S A R S V  
 R G A R R G G S L L A Q R F A R E A \*  
 ---  
 CGC CGG ACG CGC CGG AGG TCT ATC CTC CGG AAC GGC TTT GCG AGC GAG ACG AGT  
 7299 7308 7317 7326 7335 7344  
 GCG GCC TGC GCG GCC TCC AGA TAG GAG GGC TTG CCG AAA CGC TCG CTC TGC TCA  
 ---  
 A A C A A S R \* E G L P K R S L C S  
 R P A R P P D R R A C R N A R S A H  
 G L R G L Q I G G L A E T L A L L T  
 R E L E R A T L G A P S L L A L N K  
 G N S S A R A P \* G P R R S C P S I R  
 A T R A R A R D A R G A L A P R S E  
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 GCG GCA AGC TCG AGC GCG CGC CAG TCG GGC CGG CCG CTC TCG TCC CGC TCT AAG  
 7353 7362 7371 7380 7389 7398  
 CGC CGT TCG AGC TCG CGC GCG GTC AGC CCG GCC GGC GAG AGC AGG GCG AGA TTC  
 ---  
 R R S S S R A V S P A G E S R A R F  
 A V R A R A R S A R P A R A G R D S  
 P F E L A R G Q P G R R E Q G E I L  
 A A L E L P A P D V D S A I V Q R L  
 R R S S W R P P T W M P P S \* R G C  
 E G R A G A P R P G C R L R D G A A  
 ---  
 AAG CGG CGC TCG AGG TCG CCC CGC CCC AGG TGT AGC CTC CGC TAG TGG ACG GCG

7407				7416				7425				7434				7443				7452			
TTT	GCC	GCG	AGC	TCC	AGC	GGG	GCG	GGG	TCC	ACA	TCG	GAG	GCG	ATC	ACC	TGC	CGC						
F	A	A	S	S	S	S	G	A	G	S	T	S	E	A	I	T	C	R					
S	P	R	A	P	A	G	R	G	P	H	R	R	R	S	P	A	A						
R	R	E	L	Q	R	G	G	V	H	I	G	G	D	H	L	P	Q						
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S	R	R	H	L	L	G	L	V	T	L	L	Y	G	S	G	C	C						
R	A	G	T	C	C	G	W	C	R	*	S	T	V	A	A	R	A						
A	L	A	P	A	A	A	G	A	G	D	P	P	L	R	Q	A	L						
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TCG	CTC	GCG	GCC	ACG	TCG	TCG	GGG	TCG	TGG	CAG	TCC	TCC	ATT	GGC	GAC	GGC	GTC						
7461				7470				7479				7488				7497				7506			
AGC	GAG	GCG	CGG	TGC	AGC	AGC	CCC	AGC	ACC	GTC	AGG	AGG	TAA	CCG	CTG	CCG	CAG						
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S	E	R	R	C	S	S	P	S	T	V	R	R	*	P	L	P	Q						
A	S	A	G	A	A	A	P	A	P	S	G	G	N	R	C	R	S						
R	A	P	V	Q	Q	P	Q	H	R	Q	E	V	T	A	A	A	A						
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P	D	W	L	T	V	P	G	D	G	P	L	R	A	L	A	R	Q						
R	T	G	C	R	*	R	V	T	A	P	S	A	P	S	P	G	S						
V	P	G	V	A	D	G	S	R	R	R	P	P	P	R	P	G	A						
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GTG	CCC	AGG	GTG	TCG	CAG	TGG	CCT	GGC	AGC	GGC	CCC	TCC	GCC	GCG	TCC	CGG	GCG						
7515				7524				7533				7542				7551				7560			
CAC	GGG	TCC	CAC	AGC	GTC	ACC	GGA	CCG	TCG	CCG	GGG	AGG	CGG	GCG	AGG	GCC	GCG						
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H	G	S	H	S	V	T	G	P	S	P	G	R	R	A	R	A	R						
T	G	P	T	A	S	P	D	R	R	R	G	G	G	R	G	P	A						
R	V	P	Q	R	H	R	T	V	A	G	E	A	G	E	G	P	L						
-----																							
F	I	E	T	A	L	R	V	P	F	A	P	Y	G	P	A	S	H						
S	S	R	P	R	W	A	S	P	S	P	P	T	V	R	R	P	T						
P	L	D	R	D	G	P	P	R	P	L	R	P	L	G	A	R	L						
-----																							
ACC	TTC	TAG	AGC	CAG	CGG	TCC	GCC	TGC	CCC	TTC	GCG	CCC	ATT	GGG	CCG	GCG	CTC						
7569				7578				7587				7596				7605				7614			
TCG	AAG	ATC	TCG	GTC	GCC	AGG	CGG	ACG	GGG	AAG	GCG	GGG	TAA	CCC	GGC	GCG	GAG						
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W	K	I	S	V	A	R	R	T	G	K	A	G	*	P	G	A	E						
G	R	S	R	S	P	G	G	R	G	R	G	G	N	P	A	R	S						
E	D	L	G	R	Q	A	D	G	E	G	G	V	T	R	R	G	V						
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L	V	V	G	C	A	L	D	S	S	D	I	R	E	V	A	H	R						
S	C	S	V	A	P	S	I	P	V	T	S	G	S	W	P	T	A						
P	A	R	C	R	L	R	S	R	F	Q	R	D	A	G	R	R	P						
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ACC	TCG	TGC	TGT	GGC	GTC	GCG	TCT	AGC	CTT	GAC	AGC	TAG	GCG	AGG	TGC	GCG	ACC						
7623				7632				7641				7650				7659				7668			
TGG	AGC	ACG	ACA	CCG	CAG	GCG	AGA	TCG	GAA	CTG	TCG	ATC	GCG	TCC	ACG	GCG	TGG						
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W	S	T	T	P	Q	A	R	S	E	L	S	I	R	S	T	A	W						
G	A	R	H	R	A	R	D	R	N	C	R	S	A	P	R	R	G						
E	H	D	T	A	G	E	I	G	T	V	D	P	L	H	G	V	A						
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Y	A	-S	(V)	Q	G	S	G	L	V	E	S	G	G	G	D	C	G						
T	R	V	*	R	D	V	G	W	Y	K	P	V	A	E	T	A	A						



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P V C E G T W E G T S R F R R R R L  
 GCC ATG CGT GAG TGG ACA GGT GAG GGG TCA TGA AGC CTT GGC GGA GGC AGC GTC  
 7677 7686 7695 7704 7713 7722  
 CGG TAC GCA CTC ACC TGT CCA CTC CCC AGT ACT TCG GAA CCG CCT CCG TCG CAG  
 R Y A L T C P L P S T S E P P P S Q  
 G T H S P V H S P V L R N R L R R S  
 V R T H L S T P Q Y F G T A S V A A  
 Q L S \* L A A A G A P S A G L Q R R  
 R F R D Y H R P G P R P L E W S G G  
 G S A I M T G R G R G P F S G A A  
 ---  
 GGG ACT TCG CTA GTA TCA CGG CGC CGG GGC CGG CCC CTT CGA GGG TCG ACG GCG  
 7731 7740 7749 7758 7767 7776  
 CCC TGA AGC GAT CAT AGT GCC GCG GCC CCG GCC GGG GAA GCT CCC AGC TGC CCG  
 P \* S D H S A A A P A G E A P S C R  
 P E A I I V P R P R P G K L P A A A  
 L K R S \* C R G P G R G S S Q L P P  
 V C L D G A G G P S D T T G P S A P  
 S V C T V P A E P A T P R G L H L R  
 P C V P \* R R R R P Q R D D W T F G  
 ---  
 GCC TGT GTG TCC AGT GGC CGC GGA GGC CCC GAC AGC CAG CAG GGT CCA CTT CGG  
 7785 7794 7803 7812 7821 7830  
 CGG ACA CAC AGG TCA CCG GCG CCT CCG GGG CTG TCG GTC GTC CCA GGT GAA GCC  
 R T H R S P A P P G L S V V P G E A  
 G H T G H R R L R G C R S S Q V K P  
 D T Q V T G A S G A V G R P R \* S R  
 R D A R D G G L D R L N E R I H G S  
 A T P A T V A W I E S T K G F T G R  
 P P R R P \* R G F R Q P K G S H A G  
 ---  
 CCC GCC AGC CGC GCC AGT GGC GGG TTT AGA GAC TCC AAA AGG GCT TAC ACG GGG  
 7839 7848 7857 7866 7875 7884  
 GGG CGG TCG GCG CGG TCA CCG CCC AAA TCT CTG AGG TTT TCC CGA ATG TGC CCC  
 G R S A R S P P K S L R F S R M C P  
 G G R R G H R P N L \* G F P E C A P  
 A V G A V T A Q I S E V F P N V P R  
 R R N G C E S A T T A L F P P G H G  
 G V I A A S R H R L Q S S P R A M D  
 V \* S Q R V G I G Y N R P L A P W T  
 ---  
 CTG GAT GCT AAC GGC GTG AGG CTA CGG CAT CAA CGC TCC TTC CCG CCC GGT ACA  
 7893 7902 7911 7920 7929 7938  
 GAC CTA CGA TTG CCG CAC TCC GAT GCC GTA GTT GCG AGG AAG GGC GGG CCA TGT  
 D L R L P H S D A V V A R K G G P C  
 T Y L C R T P M P \* L R G R A G H V  
 P T I A A L R C R S C E E G R A (M) S

H E R P E \* G S C T Q Q H G S P R A  
 M N G P N E A P V R R S T V P P A P  
 W T G P T R L R F V D A P S R L P P  
 ---  
 GGT ACA AGG GCC CCA AGA GTC GGC CTT GTG CAG ACG ACC ACT GGC CTC CCC GCC  
 7947 7956 7965 7974 7983 7992  
 CCA TGT TCC CGG GGT TCT CAG CCG GAA CAC GTC TGC TGG TGA CCG GAG GGG CGG  
 ---  
 P C S R G S Q P E H V C W \* P E G R  
 H V P G V L S R N T S A G D R R G G  
 M F P G F S A G T R L L V T G G A G  
 ---  
 E D A R V H D V G E Q L G P G L D G  
 K M P E C T T S A K R S A P A S T V  
 S \* R S A R P R R G P P P R P \*  
 ---  
 CGA AGT AGC CGA GCG TGC ACC AGC TGC GGA AGG ACC TCC GGC CCC GGC TCC AGT  
 8001 8010 8019 8028 8037 8046  
 GCT TCA TCG GCT CGC ACG TGG TCG ACG CCT TCC TGG AGG CCG GGG CCG AGG TCA  
 ---  
 A S S A R T W S T P S W R P G P R S  
 L H R L A R G R R L P G G R G R G H  
 F I G S H V V D A F L E A G A E V T  
 ---  
 H Q V V Q G G T V R F T Q V W T R D  
 T S S S R V V P S G S R R S G R A T  
 R A P R G S W R H G P V D P G V H P  
 ---  
 GGC ACG ACC TGC TGG ACT GGT GGC CAC TGG GCC TTG CAG ACC TGG GTG CAC GCC  
 8055 8064 8073 8082 8091 8100  
 CCG TGC TGG ACG ACC TGA CCA CCG GTG ACC CGG AAC GTC TGG ACC CAC GTG CGG  
 ---  
 P C W T T \* P P V T R N V W T H V R  
 R A G R P D H R \* P G T S G P T C G  
 V L D D L T T G D P E R L D P R A V  
 ---  
 D T A D V H G I G G G Q V L G H P R  
 M R R T S T V S A A A R S S A T R D  
 \* G D R R R S R H R R G P R P R A T  
 ---  
 AGT AGG CAG CGC AGC TGC ACT GGC TAC GGC GGC GGG ACC TGC TCC GGC ACG CCA  
 8109 8118 8127 8136 8145 8154  
 TCA TCC GTC GCG TCG ACG TGA CCG ATG CCG CCG CCC TGG ACG AGG CCG TGC GGT  
 ---  
 S S V A S T \* P M P P P W T R P C G  
 H P S R R R D R C R R P G R G R A V  
 I R R V D V T D A A A L D E A V R S  
 ---  
 R A G V D D A M E R G L D V D P D R  
 A R G S T M Q W R A A W I S T R T E  
 P A G R R \* R G D R P G S R R G P R  
 ---  
 GCC GCG CGG GGC TGC AGT AGA CCG TAG AGC GCC GGG TCT AGC TGC AGG CCC AGA  
 8163 8172 8181 8190 8199 8208  
 CGG CGC GGC CCG ACG TCA TCT GCC ATC TCG CGG CCC AGA TCG ACG TCC GGG TCT  
 ---

R R A P P T S S A I S R R P R S T S G S  
 G A A P R R R H L P I S R G P D R R P G L  
 A R P D V I C H L A A Q I D V R V S  
 H G C R G D V R P D V D L A R D V H  
 T A V G A T S A R P L T S P V I L T  
 P P W V P R R R A P \* R R P C S \* R  
 ---  
 GCC ACC GGT GTG GCC GGC AGC TGC GCG CCC AGT TGC AGC TCC CGT GCT AGT TGC  
 8217 8226 8235 8244 8253 8262  
 CGG TGG CCA CAC CGG CCG TCG ACG CGC GGG TCA ACG TCG AGG GCA CGA TCA ACG  
 ---  
 R W P H R P S T R G S T S R A R S T  
 G G H T G R R R A G Q R R G H D Q R  
 V A T P A V D A R V N V E G T I N V  
 ---  
 Q F R R V G D P R P D H E G G G A P  
 S S A A C A T P A R T T N A E V P P  
 A P L P A R R P A P R T T R R W R R  
 ---  
 ACG ACC TTC GCC GCG TGC GGC AGC CCC GCG CCC AGC ACA AGC GGA GGT GGC CGC  
 8271 8280 8289 8298 8307 8316  
 TGC TGG AAG CGG CCG ACG CCG TCG GGG CGC GGG TCG TGT TCG CCT CCA CCG GCG  
 ---  
 C W K R R T P S G R G S C S P P P A  
 A G S G A R R R G A G R V R L H R R  
 L E A A H A V G A R V V F A S T G G  
 ---  
 R E V P P F A N R D R R V L V R Q G P  
 A S \* P S P T G T G V F S S V S G L  
 P A R R P L R E P G S S R P C A A W  
 ---  
 CCC GCG AGA TGC CCC TTC CGC AAG GCC AGG GGT GCT TGC TCC TGT GCG ACG GGT  
 8325 8334 8343 8352 8361 8370  
 GGG CGC TCT ACG GGG AAG CGC TTC CGG TCC CGA CGA ACG AGG ACA CGC TGC CCA  
 ---  
 G R S T G K A F R S R R T R T R C P  
 G A L R G R A S G P D E R G H A A Q  
 A L Y G E G V P V P T N E D T L P R  
 ---  
 R P R G V A R G L V A R L L V D A Q  
 G P A G \* P V A L Y Q A S F Y M P R  
 A P P A R R C P W T S R P S T C R G  
 ---  
 CCG GCC CCC GCG GGA TGC CGT GCC GGT TCA TGA CGC GCC TCT TCA TGT AGC CGG  
 8379 8388 8397 8406 8415 8424  
 GGC CGG GGG CGC CCT ACG GCA CGG CCA AGT ACT GCG CGG AGA AGT ACA TCG GCC  
 ---  
 G R G R P L A R P S T A R R S T S A  
 A G G A L R H G Q V L R G E V H R P  
 P G A P Y G T A K Y C A E K Y I G L  
 ---  
 E V P Q V S G L V A H Q P E A V H V  
 N L R S C P V S C L T N R S P L T Y  
 T \* G A A R F R A C R T A A R C R T  
 ---  
 ACA AGT TGG CCG ACG TGC CTT GGC TCG TGT CGC ACA ACG CCG AGC CGT TGC ACA

8433			8442			8451			8460			8469			8478		
TGT	TCA	ACC	GGC	TGC	ACG	GAA	CCG	AGC	ACA	GCG	TGT	TGC	GGC	TCG	GCA	ACG	TGT
C	S	T	G	C	T	E	P	S	T	A	C	C	G	S	A	T	C
V	Q	P	A	A	R	N	R	A	Q	R	V	A	A	R	Q	R	V
F	N	R	L	H	G	T	E	H	S	V	L	R	L	G	N	V	Y
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P	G	P	L	A	R	A	T	L	R	A	D	D	G	D	V	A	P
P	G	R	C	L	G	P	P	S	A	P	T	M	A	M	*	Q	P
R	A	G	A	S	G	P	R	H	P	P	R	*	R	W	R	S	R
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TGC	CCG	GGG	CCG	TCT	CGG	GCC	CGC	CAC	TCC	GCC	CGC	AGT	AGC	GGT	AGA	TGA	CGC
8487			8496			8505			8514			8523			8532		
ACG	GGC	CCC	GGC	AGA	GCC	CGG	GCG	GTG	AGG	CGG	GCG	TCA	TCG	CCA	TCT	ACT	GCG
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T	G	P	G	R	A	R	A	V	R	R	A	S	S	P	S	T	A
R	A	P	A	E	P	G	R	*	G	G	R	H	R	H	L	L	R
G	P	R	Q	S	P	G	G	E	A	G	V	I	A	I	Y	C	G
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Q	A	G	L	A	S	H	G	R	H	E	A	V	T	R	L	G	T
S	A	E	S	P	P	T	G	V	T	N	P	S	P	E	C	V	R
A	P	R	R	P	R	L	A	W	P	T	R	P	R	N	A	S	G
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CCG	ACC	GGG	GGC	TCC	CGC	CTC	ACG	GGT	GCC	ACA	AGC	CGC	TGC	CAA	GCG	TCT	GGG
8541			8550			8559			8568			8577			8586		
GGC	TGG	CCT	CCG	AGG	GCG	GAG	TGC	CCA	CGG	TGT	TCG	GCG	ACG	GTT	CGC	AGA	CCC
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G	W	P	P	R	A	E	C	P	R	C	S	A	T	V	R	R	P
A	G	L	R	G	R	S	A	H	G	V	R	R	R	F	A	D	P
L	A	S	E	G	G	V	P	T	V	F	G	D	G	S	Q	T	R
-----																	
V	V	H	V	D	A	V	D	G	R	R	E	D	R	R	V	A	G
S	*	T	Y	T	P	S	T	A	A	A	N	T	A	G	Y	P	V
H	S	R	T	R	R	R	R	R	R	P	T	R	R	A	T	R	C
-----																	
CAC	TGA	TGC	ACA	TGC	AGC	CGC	TGC	AGC	GGC	GCC	GCA	AGC	AGC	GCG	GCA	TGC	CGT
8595			8604			8613			8622			8631			8640		
GTG	ACT	ACG	TGT	ACG	TCG	GCG	ACG	TCG	CCG	CGG	CGT	TCG	TCG	CGC	CGT	ACG	GCA
-----																	
V	T	T	C	T	S	A	T	S	P	R	R	S	S	R	R	T	A
*	L	R	V	R	R	R	R	R	R	G	V	R	R	A	V	R	H
D	Y	V	Y	V	G	D	V	A	A	A	F	V	A	P	Y	G	T
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D	A	R	R	R	S	C	R	V	R	A	L	P	A	R	H	Q	L
T	P	G	A	D	P	V	D	S	V	P	L	P	L	V	T	S	S
R	R	G	P	T	Q	F	M	P	C	P	C	P	S	C	P	A	P
-----																	
GGC	AGC	CGG	GCC	GCA	GAC	CTT	GTA	GCC	TGT	GCC	CGT	TCC	CCT	CGT	GCC	ACG	ACC
8649			8658			8667			8676			8685			8694		
CCG	TCG	GCC	CGG	CGT	CTG	GAA	CAT	CGG	ACA	CGG	GCA	AGG	GGA	GCA	CGG	TGC	TGG
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P	R	A	R	R	L	E	H	R	T	R	A	R	G	A	R	C	W
R	S	P	G	V	W	N	I	G	H	G	Q	G	E	H	G	A	G
V	G	P	A	S	G	T	S	D	T	G	K	G	S	T	V	L	E
-----																	
D	E	V	V	D	G	G	G	P	A	V	Q	R	G	T	E	R	
T	R	S	W	M	A	A	A	E	P	R	S	R	G	G	R	K	A

P G R G C R R R R R A R G A E G N R  
 TCC AGG AGC TGG TGT AGC GGC GGC GGA GGC CCG CGC TGG ACG GAG GGG CAA AGC  
 8703 8712 8721 8730 8739 8748  
 AGG TCC TCG ACC ACA TCG CCG CCG CCT CCG GGC GCG ACC TGC CTC CCC GTT TCG  
 ---  
 R S S T T S P P P P G A T C L P V S  
 G P R P H R R R L R A R P A S P F R  
 V L D H I A A A S G R D L P P R F A  
 ---  
 G A P R A L D L V A G Q V D S T D G  
 G R R G P S I W C L V R S T V R T A  
 A G G A P R S G A C C G P R \* E H R  
 ---  
 GCG GGC CGG CCG GCC CGC TCT AGG TCG TGT CGT GGG ACC TGC AGT GAG CAC AGC  
 8757 8766 8775 8784 8793 8802  
 CGC CCC GCC GGC CGG GCG AGA TCC AGC ACA GCA CCC TGG ACG TCA CTC GTG TCG  
 ---  
 R P A G R A R S S T A P W T S L V S  
 A P P A G R D P A Q H P G R H S C R  
 P R R P G E I Q H S T L D V T R V A  
 ---  
 G I Q A P G R G D R Q S L F A D G G G  
 A S R P A Q V A D T G S S F P M A A V  
 R R D P S S R A T R G A P S L C R A W  
 ---  
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 R R R S R S P W P T P I A V A A P Y  
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T Q N S S G V Q R D S G A V R C R V
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C Q * A R R R * R R V S R P G S T
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M T S S R T S P C C A A R A C G G G
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* * R S S P P T R V P S C T S A P A
E D A R H L L H G * R V A P Q R R H
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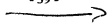
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 ---  
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 P V G P F P Q H R V T G R R Q P S R  
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 H G G P D A D D G R G R E G P H R G  
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x9

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P	A	R	A	R	F	W	N	V	*	R	G	F	R	T	P	S	T						
H	R	A	H	G	S	G	T	*	R	G	A	S	G	P	R	A	P						
TAC	CGC	GCG	CAC	GGG	ACT	TGG	TCA	AGT	GGA	TGG	CCG	GCT	TGG	ACC	AGC	CCG	ACC						
10647				10656				10665				10674				10683				10692			
ATG	GCG	CGC	GTG	CCC	TGA	ACC	AGT	TCA	CCT	ACC	GGC	CGA	ACC	TGG	TCG	GGC	TGG						
M	A	R	V	P	*	T	S	S	P	T	G	R	T	W	S	G	W						
W	R	A	C	P	E	P	V	H	L	P	A	E	P	G	R	A	G						
G	A	R	A	L	N	Q	F	T	Y	R	P	N	L	V	G	L	V						
P	D	D	P	L	S	V	G	R	G	R	Q	D	D	R	G	V	V						
R	I	M	R	S	R	C	G	E	V	G	S	T	M	A	D	W	W						
G	S	*	G	P	A	V	G	R	S	G	A	P	*	R	T	G	G						
AGG	CCT	AGT	AGG	CCC	TCG	CTG	TGG	GGA	GCT	GGG	GCG	ACC	AGT	AGC	GCA	GGG	TGG						
10701				10710				10719				10728				10737				10746			
TCC	GGA	TCA	TCC	GGG	AGC	GAC	ACC	CCT	CGA	CCC	CGC	TGG	TCA	TCG	CGT	CCC	ACC						
S	G	S	S	G	S	D	T	P	R	P	R	W	S	S	R	P	T						
P	D	H	P	G	A	T	P	L	D	P	A	G	H	R	V	P	P						
R	I	I	R	E	R	H	P	S	T	P	L	V	I	A	S	H	H						
V	R	G	P	V	V	R	Q	F	S	V	A	V	Q	G	Q	R	L						
*	E	G	Q	C	S	G	S	S	P	S	P	*	R	D	K	V	S						

S S A R A R G A P L L R S G T R S P  
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 L L A L A R P A G R R R L P V L D G  
 Y S P W H D P L E G D G Y L S L T E  
 D P L L G T L H D I Q Q A R V A V L  
 T R S C V R S T T S R A S P R S S  
 P G P A S G H P P R D A A A R P R R  
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 G P G A D P \* G G R S A A R G R R R  
 V R E Q T R E V V D L L R A D G D E  
 V D V V D V A R A E G A G F G G V Q  
 F T W \* T W P G L R A P G S V A W R  
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 N V H Y V H G P S L A G P E T A H L  
 V D L R P V G I R Q V E V L L P V V  
 Y T S G R Y V S G S C K L W S P C S  
 T R R A A T C R D A A S \* G P P A R  
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 TGT ACG TCG AGC CGC GGT ACA CCG ATC CGC TGC ACT TCA ACC AGG AGG GGC ACG  
 C T S S R G T P I R C T S T R R G T  
 V R R A A V H R S A A L Q P G G A R  
 Y V E P R Y T D P L H F N Q E G H D  
 Q Q R G S E L P L E H L Q H R V Q H  
 R S A A A K W R F S T S S T G S R T  
 G A P P R K G A S A R P A P A P G P  
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 T C W R P L S S G S S W S W C R T W  
 P A G G R F P A E A R G A G A G P G  
 L L A A A F Q R K L V E L V P D L V

P G S E R V R G A L C Q P D L F G R  
 R T D Q S G S E G R L A S R I \* S G A  
 A T R V G P S E G C P V A S R P V R  
 ---  
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 11025 11034 11043 11052 11061 11070  
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 ---  
 C G P D S R T L P A R H C G S R N P  
 A V L T P G L S P Q G T A D L G T R  
 R S \* L P D S P R K A L R I \* E P A  
 ---  
 V Y R T S P R I G R C R R H T R S A  
 S T D P P H D S G E A D G I H G P L  
 P R I P H I T P D R Q M A S T D P F  
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 R T Y R V D G R I P L H R R C V R E  
 G R I G W M V G S L C I A D V S G K  
 D V S G G W S D P S A S P M C P G S  
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 R P R L C G T R G S S P I R G R A E  
 G H A F A V L G A Q L R S E V G L K  
 G T P S P L W D P R F V P N S G S S  
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 GCC CGT GGG CGA AGG CAA CCA GTC CGG CCT GAA GAC GGG ATT CGA CCC CGA GCT  
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 A R G R R Q P V R P E D G I R P R A  
 P V G E G N Q S G L K T G F D P E L  
 P W A K A T S P A \* K R R D S T P S F  
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 G T D P G Y S G Q R H A R H G R A A  
 A L I Q A M H A K V T R E T V G L L  
 R W Y R P W I L R S P A S P S G S C  
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 11187 11196 11205 11214 11223 11232  
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 S P V S G P Y E P \* R C A R \* P R A  
 R Q Y L G H M S L D G A L G D P E Q  
 A S I W A I \* A L T V R S V T P S S  
 ---  
 R R D \* P Q L L R P E A P P L G P A  
 A A I E R N S Y G H S L L L F V Q L  
 R P S R V T P T A T A \* C S S S R S  
 ---  
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 11241 11250 11259 11268 11277 11286  
 GCG CGG CGA TCT CAC GGT TGG AGT AGC CGT GGC TCA GCA GGA GGA AGA CCT GGA  
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A R R S H G W S S R G A G E G E R D P L G  
 R G R D L T V G V A V A Q Q E R D L E  
 A A I S R L E \* P W L S R R K T W S

R P R L T F T G P Q A R G A L P V P  
 E R D S L L H V Q S L G E L W P F Q  
 S A T P S Y I Y R A S G K W G P S S

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 L A V G E \* M Y L A E P F Q P G E L  
 S R S E S K C T W L S P S S Q G N W

G R P S I S R R W F \* Q F R L R F I  
 D E H L F R D D G S D S D C G S Y  
 T R T S F D I T A L I V P I A A P I

CCA GGA GCA CCT CTT TAG CTA GCA GCG GTC TTA GTG ACC TTA GCG TCG GCC TTA  
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G P R G E I D R R Q N H W N R S R N  
 V L V E K S I V A R I T G I A A G I  
 S S W R N R S S P E S L E S Q P E Y

A F D P G R I L T H D K C A R L P \*  
 P L T Q G R Y S R T T R A H G L S D  
 H C L L R A G Y H A H P G Q M G \* S T

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 W Q S L A P V \* A C G P C M P \* E V  
 G K V W P P Y E R V V L A C P K R S

G V C R T D L R R L A G G S F \* S S  
 D S A D L I L A G F P A V V S S H L  
 M R R M S Y \* P A S P R W W Q V I F

GTA GGC TGC GTA GCT CAT AGT TCC GCG GCT TCC CGC GGT GGT GAC TTG ATA CTT  
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H P R T H R V S R R R A P P L N Y E  
 I R R I E Y Q G A E G R H H \* T M K  
 S D A S S I K A P K G A T T E L \* R

T L A I G G M R R I P G P C \* E D Q  
 R S P S V V W A V F P D Q V N S M K  
 V H P R Y W G H S S H T R S M V \* R

CTG CAC TCC CGC TAT GGT GGG TAC GCT GCT TAC CCA GGA CCT GTA ATG AGT AGA

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 T \* G R Y H P C D E W V L D I T H L  
 R E G D T T H A T N G S W T L L I L  
 D D \* R M \* P R T P A G Q H R R S D  
 I M K D C R R G P Q P A K T G G A T  
 S \* R I A D V A P N P R R P A A Q Q  
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 \* S S Y R I Y G R V G A P W C R L L  
 D H L I A S T A G L G R L G A A C C  
 I I L S H L R P G W G A L V P P A V  
 H A P G A S A H A L R I L R G T G P  
 T L L A R R P T P L A S L A A R A R  
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 V S R A R R G V G K A D K A A R A R  
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 H R A Q A P V M H L E E S G I P A A  
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 A Q G S V P R T V Q K P R G A M R A

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 G L P \* N G A R H L L W S A G H A R A  
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 R L \* R I T A P Y I F V R K S L S E  
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 P V I N G S L R D I \* K P V S I N F  
 P \* S T D R C G I Y E N P F R \* T F  
 C Q R C A R K T W S P S S P A R \* R  
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 R M P S M R T K D L E A V F A G A V  
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 R I G D M R V L S S A T K A P A T  
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 R I E P N G A R L G Q R R P R H P Q  
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 R P D \* S E W R T P R P S S P P A T  
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 L G S Q D S Q R V G L G D E G G A V  
 S D L R I P S A \* A L A T R A V R L

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      A G P L A G D D Q Q R P V R G G P P
      P V R F R E M M K S V H Y E V G Q R
      P C G S A S W * R A S T T S S G R A
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ACC CGT GGG CCT TCG CGA GGT AGT AGA ACG ACT GCA CCA TGA GCT GGG GGA CCG
      12051      12060      12069      12078      12087      12096
TGG GCA CCC GGA AGC GCT CCA TCA TCT TGC TGA CGT GGT ACT CGA CCC CCT GGC
      ---
      W A P G S A P S S C * R G T R P P G
      G H P E A L H H L A D V V L D P L A
      G T R K R S I I L L T W Y S T P W R
      ---
      Q P L A Q Q R H L H H A * R R R H T
      S L Y L K S A I C T T R E G A A I R
      A S T S S A P S A P P A S V Q P S A
      ---
CCG ACT CCA TCT CGA ACG ACC GCT ACG TCC ACC ACG CGA GTG GAC GCC GCT ACG
      12105      12114      12123      12132      12141      12150
GGC TGA GGT AGA GCT TGC TGG CGA TGC AGG TGG TGC GCT CAC CTG CGG CGA TGC
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      G * G R A C W R C R W C A H L R R C
      A E V E L A G D A G G A L T C G D A
      L R * S L L A M Q V V R S P A A M R
      ---
      R H D Q R G P Q I L D H P R N E G P
      E I I K A D L S S L T T P A T R V Q
      N S I S R P T W A P Y P R P P E * R
      ---
CAA GCT ACT AGA ACC GCA GGT CCG ACC TAT TCC AGC ACC CCC GCC AAG AGT GGA
      12159      12168      12177      12186      12195      12204
GTT CGA TGA TCT TGG CGT CCA GGC TGG ATA AGG TCG TGG GGG CGG TTC TCA CCT
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      V R * S W R P G W I R S W G R F S P
      F D D L G V Q A G * G R G G G S H L
      S M I L A S R L D K V V G A V L T W
      ---
      V G Q P F L A S L H R S R R P P V L
      Y E R P S S H Q S T D L A G P R S W
      T S G P P L T S L P T S L A P A P G
      ---
CCA TGA GGG ACC CCC TTC TCA CGA CTC TCC ACA GCT CTC GCG GCC CCG CCC TGG
      12213      12222      12231      12240      12249      12258
GGT ACT CCC TGG GGG AAG AGT GCT GAG AGG TGT CGA GAG CGC CGG GGC GGG ACC
      ---
      G T P W G K S A E R C R E R R G G T
      V L P G G R V L R G V E S A G A G P
      Y S L G E E C * E V S R A P G R D Q
      ---
      C R R S V G K Y G V S T * W C Y H V
      A G A A S E K T G L V R E G A T T S
      P V P P Q S R Q V W C E N V L L L P
      ---
TCC GTG GCC GCC GAC TGA GGA AAC ATG GGT TGT GAG CAA GTG GTC GTC ATC ACC
      12267      12276      12285      12294      12303      12312
AGG CAC CCG CGG CTG ACT CCT TTG TAC CCA ACA CTC GTT CAC CAG CAG TAG TGG
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R H R R L T P L Y P T L V H Q Q S W  
G T G G \* L L L C Y T Q H S F T S S S G  
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K T \* T G T A T R P C Q T T T R A F P  
K R E P A P R P E Q V N P Q E L L H  
S E N L H R D R N K S M P N N S C I

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T F V Q V P V A V L G H W V V R A N  
L S F R C R S R F L D I G L F E Q M  
F R S G A G R G S W T L G C S S K W

A P P K P P R R G A S R V E R D H R D  
P P N R P G A A P Q G S K V I M A T  
P R T E P A Q P R S V P S \* S \* P P

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G R V S G A C G R L T G L H D H G G  
G G F R G P A A G \* P D F T I M A V

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G C S A A V A R Y N L R E P T Y R G

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P Q E A A T A R \* L R R S G V \* R P  
R K R L R R L G S \* G A P G C N G R

D R A T A H G N R G R F R P Y C A D  
M G R Q P T G T G A A F G R T V P (M)  
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H P A L W R A R S G R E T A G N R H  
I P R C G V P V P A A K P R V T G I

P R G S F E R S T V R H Q R R V P G  
Q G A P F S A P R \* A T N D A S P V  
R A P R F V R P V D R P T T P P R S

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 L A G R K T R G T S R G V V G G R D  
 W P A G K L A G R H A V L S A D G T  
 S D H A G G V P S S I E K C T G T K  
 R I M P A A S L V L F K R V R A R R  
 G F \* P R A R C S \* F N G \* V H G D  
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 P E S W A P P T G L E I S L H V P V  
 P N H G R R R Q D \* K F P Y T C P S  
 R I M G A A D R T R N F L T R A R L  
 D E V G A F R H R P V L P S P M F I  
 I R S A Q S D T A H F S H L R C S F  
 \* G R R R R I Q P T S R T S V A H F  
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 L S S T P A N L W R G T S G D G (M) K X10  
 Y P R R L R I C G V E R V E T A \* K  
 I L D A C E S V A W N E W R R H E N  
 S T S C G V Q L R S V T R S P R P P  
 R H A A A S R Y G P Y P A P R A R R  
 D I H Q L R G T V Q I R H P V P A A  
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 S M C C S R P V T W I R C G T G A A  
 R C A A A D L \* P G Y G A G R A R R  
 I K V Q T G G S G M R S N L I S C R  
 F K \* R P G G P A W G P I \* Y A A G  
 S N E G P D G R L G D Q F E I H Q V  
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 E F S P G S P R S P S W N S I C A C T  
 N F H L G P P G A H P G I Q Y A A P  
 Y G -P F T R P R C \* \* G C K T S Y R  
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Q V R S L H A A Q M I V R V K D L V  
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 C C S S R A R A C \* S P R T T P K T  
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 L Q L S S N M W T E R P T Q V L V G  
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 G V A F L F E D V D R A P D A G P R  
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 C R T R W S A R E G R R G R R R G V  
 A A H A G A P (V) R V A V V G A G G F X-11  
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 D A R G D G P C Q T G R G N G H R T  
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 R R C P R \* G P V P N R P W E R S A  
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 S S A R P S P G H W V P R P F P \* R  
 R R H G R H P G T G F R G H S R D A  
 V G T A V T R A L G S A A I P V T R  
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A R R S T T R P G R S' F A T G S G T A  
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 R G S \* C W R R A C G A P C G R R G  
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 C G T \* A C P S D R W L K A G T S H  
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 T R R S P P R G G R R R P A T P P P  
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13563										13572										13581										13590										13599										13608									
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G	A	A	A	A	G	W	P	P	T	S	T	P	R	G	C	G	R	W	V	R	R	L	G	G	L	P	P	R	R	R	G	A	V	G	G	G	C	G	G	W	V	A	S	H	L	D	A	E	G	L	W	E	V	G					
R P R R D A Q P L D P V R D T R T G										A R V V T L R R S I L S A T P E R R E										P A S S P * G A P S * P R P R N A N																																							
CCC	CGC	CCT	GCT	GCC	AGT	CGG	ACG	CCC	TCT	AGT	CCC	TGC	GCC	AGC	CAA	CGC	CAA	13617	13626	13635	13644	13653	13662	GGG	CGC	GGA	CGA	CGG	TCA	GCC	TGC	GGG	AGA	TCA	GGG	ACG	CGG	TGC	GTT	CGC	GTT																		
G	R	G	R	R	S	A	C	G	R	S	G	T	R	S	V	R	V	G	A	D	D	G	Q	P	A	G	D	Q	G	R	G	R	F	A	F	A	R	T	T	V	S	L	R	E	I	R	D	A	V	G	S	R	S						
D E G A G A L V V L E G Q D A F G V										T K A P A R L S W N G R T L S G S										R R R R R G C P R G T G G P * R V R																																							
GGC	AGA	AGC	GGC	CGC	GGG	CGT	TCC	TGC	TGG	TCA	AGG	GGG	ACC	AGT	CGC	TTG	GGC	13671	13680	13689	13698	13707	13716	CCG	TCT	TCG	CCG	CGC	CCC	GCA	AGG	ACG	ACC	AGT	TCC	CCC	TGG	TCA	CGC	AAC	CCG																		
P	S	S	P	A	P	A	R	T	T	S	S	P	W	S	A	N	P	R	L	R	R	R	P	Q	G	R	P	V	S	P	P	G	Q	R	T	R	V	F	A	G	A	R	K	D	D	Q	F	P	L	V	S	E	P	D					
P R V G C I D D A P E P G T A S C Q										Q G S A A S T M P Q S L A R L R A S										S A P R R L H * R S A * P G Y G L V																																							
TGA	CCG	GCC	TGC	GGC	GTC	TAC	AGT	AGC	CGA	CCG	AGT	CCC	GGG	CAT	CGG	CTC	GTG	13725	13734	13743	13752	13761	13770	ACT	GGC	CGG	ACG	CCG	CAG	ATG	TCA	TCG	GCT	GGC	TCA	GGG	CCC	GTA	GCC	GAG	CAC																		
T	G	R	T	P	Q	M	S	S	A	G	S	G	P	V	A	E	H	L	A	G	R	R	C	H	R	L	A	Q	G	P	*	P	S	T	W	P	D	A	A	D	V	I	G	W	L	R	A	R	S	R	A	L							
S S F * S C S R D S S R * R G N G S										V P S D H A R G T V R G D D V T A P										S Q L I M L V V P * E V T M S R Q R																																							
ACT	GAC	CTC	TTA	GTA	CTC	GTG	CTG	GCC	AGT	GAG	CTG	GCA	GTA	GCT	GGC	AAC	GGC	13779	13788	13797	13806	13815	13824	TGA	CTG	GAG	AAT	CAT	GAG	CAC	GAC	CGG	TCA	CTC	GAC	CGT	CAT	CGA	CCG	TTG	CCG																		
* L E N H E H D R S L D R H R P L P										D W R I M S T T G H S T V I D R C R										T G E S * A R P V T R P S S T V A G																																							
R R C C R T A A R A R G R V A P G *										D A V V G L Q Q G H E V E S R L G E																																																	

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I Q S L V S N S G T S S R P G C A R  
 CTA GAC GCT GTT GTG GCT CAA CGA CGG GCA CGA GCT GGA GCC TGG CGT CCG GGA  
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 S A T T P S C C P C S T S D R R P S  
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 G A H E R P G A A L V H R V N R Q L  
 V P T N G R V R P S S T G Y T G S S  
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 S T R Q E G P P Q S S T C S R W V A  
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 L V R C S P G G C E L V Q L R H T A  
 W C A A R P A V A N W C S C A T P P  
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 S R G \* T R R P S R S G T W G \* G S  
 V E A E H V A L A V A V P G A E V A  
 S K P R M Y P S P \* P \* R D L R L R  
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 D F G L M Y G E Y G Y R S S L N R  
 T S A S C T A R A T A T G P A S T A  
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R G R R G P R P C R C C R V R C G A P  
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 V F A A S Y P P G V E L I P D F F A  
 S S P R P T R R A S S \* S S P T S S H  
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 R G A R R A G R W P R \* R S R S T R  
 V V Q E A P A A G L D D G R D R H E  
 Y S R S P P R R A L T T V E I A I N  
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 Y D L L G G R R A K V V T S I A M F  
 T T C S A G A A P R S S P R S R C S  
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 V V Q R T G H L E H P L D A A Q Q R  
 \* S R G R G M S N M R S T P R R S V  
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 V R A D P H G L L A I Q G R H E V G  
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 ---  
 R R R R R F G R A R A P G G R S R E G  
 G D V A S A E R E H Q G A A A G R A  
 G T \* P P L R E S T S A R R P E E R  
 ---  
 GGG GCA GAT GCC GCC TTC GGA GAG CGA GCA CGA CCG GGC GGC GCC GAG GAG AGC  
 14535 14544 14553 14562 14571 14580  
 CCC CGT CTA CGG CGG AAG CCT CTC GCT CGT GCT GGC CCG CCG CGG CTC CTC TCG  
 ---  
 P R L R R K P L A R A G P P R L L S  
 P V Y G G S L S L V L A R R G S S R  
 P S T A E A S R S C W P A A A P L A  
 ---  
 P \* R A P A P G C G R R L S P G A R  
 L D V L R R Q G A D A G S L R V Q G  
 W T L S G A S A R M R A P S V S R G  
 ---  
 GGT CCA GTT GCT CGG CCG CGA CCG GGC GTA GGC GCG GCC TCT CTG CCT GGA CGG

14589				14598				14607				14616				14625				14634			
CCA	GGT	CAA	CGA	GCC	GGC	GCT	GGC	CCG	CAT	CCG	CGC	CGG	AGA	GAC	GGA	CCT	GCC						
P	G	Q	R	A	G	A	G	P	H	P	R	R	R	D	G	P	A						
Q	V	N	E	P	A	L	A	R	I	R	A	G	E	T	D	L	P						
R	S	T	S	R	R	W	P	A	S	A	P	E	R	R	T	C	P						
R	P	T	R	G	A	S	R	P	T	G	H	G	V	G	P	I	G						
V	R	L	E	G	P	P	G	L	L	G	T	V	S	E	Q	F	E						
*	A	S	N	A	R	R	V	S	S	D	R	S	R	S	R	S	N						
GAT	CGC	CCT	CAA	GGC	GGC	CGC	CTG	GCT	CCT	CAG	GGC	ACT	GGC	TGA	GGA	CCT	TAA						
14643				14652				14661				14670				14679				14688			
CTA	CGC	GGA	GTT	CGC	CCG	GGC	GAC	CGA	GGA	GTC	CCG	TGA	CCG	ACT	CCT	GGA	ATT						
L	R	G	V	R	P	A	D	R	G	V	P	*	P	T	P	G	I						
Y	A	E	F	A	R	R	T	E	E	S	R	D	R	L	L	E	F						
T	R	S	S	P	G	G	P	R	S	P	V	T	D	S	W	N	S						
*	R	R	A	P	C	P	A	A	C	G	Q	S	R	R	R	S	S						
E	G	G	R	P	V	L	P	Q	V	G	K	A	V	A	G	R	R						
R	V	A	E	R	S	L	P	S	C	V	R	P	*	P	A	E	V						
GGA	GTG	GCG	GAG	CGC	CCT	GTT	CCC	CGA	CGT	GTG	GGA	ACC	GAT	GCC	GCG	GAG	CTG						
14697				14706				14715				14724				14733				14742			
CCT	CAC	CGC	CTC	GCG	GGA	CAA	GGG	GCT	GCA	CAC	CCT	TGG	CTA	CGG	CGC	CTC	GAC						
P	H	R	L	A	G	Q	G	A	A	H	P	W	L	R	R	L	D						
L	T	A	S	R	D	K	G	L	H	T	L	G	Y	G	A	P	S						
S	P	P	R	G	T	R	G	C	T	P	L	A	T	A	P	R	R						
P	C	R	*	G	A	T	S	R	G	P	R	S	A	G	A	R	C						
L	A	V	D	D	Q	L	V	A	A	Q	V	L	R	E	Q	G	A						
F	P	L	T	M	R	C	Y	Q	P	R	S	S	V	S	R	G	Q						
CTT	CCC	GTT	GCA	GTA	GGA	CGT	CAT	GAC	GCC	GGA	CCT	GCT	CTG	CGA	GGA	CGG	GAC						
14751				14760				14769				14778				14787				14796			
GAA	GGG	CAA	CGT	CAT	CCT	GCA	GTA	CTG	CGG	CCT	GGA	CGA	GAC	GCT	CCT	GCC	CTG						
E	G	Q	R	H	P	A	V	L	R	P	G	R	D	A	P	A	L						
K	G	N	V	I	L	Q	Y	C	G	L	D	E	T	L	L	P	C						
R	A	T	S	S	C	S	T	A	A	W	T	R	R	S	C	P	A						
R	R	P	S	R	P	C	T	R	S	S	C	A	R	C	S	C	G						
D	G	L	H	V	L	V	L	E	A	A	V	R	G	A	R	V	D						
M	A	S	T	F	S	S	L	N	P	Q	*	V	G	P	V	F	M						
GTA	GCG	GCT	CCA	CTT	GCT	CCT	GTT	CAA	GCC	GAC	GAT	GTG	CGG	GCC	GTG	CTT	GTA						
14805				14814				14823				14832				14841				14850			
CAT	CGC	CGA	GGT	GAA	CGA	GGA	CAA	GTT	CGG	CTG	CTA	CAC	GCC	CGG	CAC	GAA	CAT						
H	R	R	G	E	R	G	Q	V	R	L	L	H	A	R	H	E	H						
I	A	E	V	N	E	D	K	F	G	C	Y	T	P	G	T	N	I						
S	P	R	*	T	R	T	S	S	A	A	T	R	P	A	R	T	S						
S	R	R	R	P	P	P	G	P	A	Q	A	R	G	T	G	P	G						
R	D	D	G	L	L	L	G	P	R	K	L	G	V	L	E	Q	D						

G I T E S S S A R A S S G S W N R T  
 GGG CTA GCA GAG GCT CCT CCT CCG GGC CGA ACT CGG GCT GGT CAA GGA CCA  
 14859 14868 14877 14886 14895 14904  
 CCC GAT CGT CTC CGA GGA GGA GGC CCG GGC GCT TGA GCC CGA CCA GTT CCT GGT  
 P D R L R G G G P G A \* A R P V P G  
 P I V S E E E A R A L E P D Q F L V  
 R S S P R R P G R L S P T S S W S  
 G T S R G P R S P R G P V R S G P R  
 E R P D V P V R H D G P F A V E Q G  
 R G H I \* R S A I T A R S R S K R A  
 GGA GGG CAC CTA GAT GGC CCT GCG CTA CCA GCG GGC CCT TGC GCT GAA GGA CCG  
 14913 14922 14931 14940 14949 14958  
 CCT CCC GTG GAT CTA CCG GGA GCG GAT GGT GCG CCG GGA ACG CGA CTT CCT GGC  
 P P V D L P G R D G R P G T R L P G  
 L P W I Y R D A M V A R E R D F L A  
 S R G S T G T R W S P G N A T S W P  
 R L C G P R E A A W A P L Q T I P H  
 G S A A Q D K R Q G R Q F N H S R T  
 E P P L R T K G S G V S S T T H D P  
 GAG GCC TCC GTC GGA CCA GAA AGG CGA CGG GTG CGA CCT TCA ACA CAC TAG CCC  
 14967 14976 14985 14994 15003 15012  
 CTC CGG AGG CAG CCT GGT CTT TCC GCT GCC CAC GCT GGA AGT TGT GTG ATC GGG  
 L R R Q P G L S A A H A G S C V I G  
 S G G S L V F P L P T L E V V \* S G  
 P E A A W S F R C P R W K L C D R  
 R L H C R A A G G A H K G H A Q R  
 A S T V D R P V V R T S A T H R S D  
 P P P S M A R C W G R A Q R T G A T  
 ACC GCC TCC ACT GTA GCG CGC CGT GGT GGG CGC ACG AAC GGC ACA CGG ACG ACA  
 15021 15030 15039 15048 15057 15066  
 TGG CGG AGG TGA CAT CGC GCG GCA CCA CCC GCG TGC TTG CCG TGT GCC TGC TGT  
 W R R \* H R A A P P A C L P C A C C  
 G G G D I A R A H H P R A C R V P A V  
 A E V T S R G T T R V L A V C L L S  
 H Q R Q Q G R G Q Q Q P V A G R A L  
 T S G S S A A A R S S H C P V V P L  
 P A A A A P R P G A A T A R C W P C  
 GCC ACG ACG GCG ACG ACC GGC GCC GGG ACG ACG ACA CCG TGC CGT GGT GCC CGT  
 15075 15084 15093 15102 15111 15120  
 CGG TGC TGC CGC TGC TGG CCG CGG CCC TGC TGC TGT GGC ACG GCA CCA CGG GCA  
 R C C R C W P R P C C C G T A P R A  
 G A A A A G R G P A A V A R H H G Q  
 V L P L L A A A L L W H G T T G K

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V V R R S G A G P T G R R P I R R M  
 S S A D R G P E P L A V G P P S A G C  
 P R R T A V R S R S H W A P P H A A  
 ---  
 TCC TGC TGC GCA GCG CTG GGC CGA GGC CCT CAC GGT GCG GCC CCC TAC GCG GCG  
 15129 15138 15147 15156 15165 15174  
 AGG ACG ACG CGT CGC GAC CCG GCT CCG GGA GTG CCA CGC CGG GGG ATG CGC CGC  
 ---  
 R T T R R D P A P G V R R G M R R  
 G R R V A T R L R E C H A G G C A A A  
 D D A S R P G S G S A T P G G D A P H  
 ---  
 D L R P P Q Q E G E G H H H G D R P  
 T S A H R N S S A R A T T T A T A R  
 H R P T A T A A R G R R P P P R R A  
 ---  
 TAC AGC TCC GCA CCG CCA ACG ACG AGC GGG AGC GGC ACC ACC ACC GGC AGC GCG  
 15183 15192 15201 15210 15219 15228  
 ATG TCG AGG CGT GGC GGT TGC TGC TCG CCC TCG CCG TGG TGG TGG CCG TCG CGC  
 ---  
 M S R R R G G C C S P S P W W W P S R  
 C R G V A V A A R P R R G G G R R A  
 V E A W R L L A L A V V G V A V A R  
 ---  
 G A S R Q D A P V Q A L W A H H A L  
 A Q P A S T P R C K P W G R T T P S  
 P R R L A P R G A S P G A V R P P R  
 ---  
 CCC GGA GCG CTC GCG ACC AGC CGG CCG TGA ACC CGG TCG GTG GCG ACC ACC GCG  
 15237 15246 15255 15264 15273 15282  
 GGG CCT GCG GAG CGC TGG TCG GCC GGC ACT TGG GCC AGC CAC GCG TGG TGG GCG  
 ---  
 G P A E R W S A G T W A S H A W W A  
 G L R S A G R P A L G P A T R G G R  
 A C G A L V G R H L G Q P R V V G E  
 ---  
 H D G P D N E A R R H E A E D S G P  
 I I E P I T R P G E T S P R T A G P  
 S S R R S R E R G K P A R G R R E R  
 ---  
 TCT ACT AGA GGC CCT AGC AAG AGC CGG GAA GCC ACG AGC CGG AGC AGC GAG GGC  
 15291 15300 15309 15318 15327 15336  
 AGA TGA TCT CCG GGA TCG TTC TCG GCC CTT CGG TGC TCG GCC TCG TCG CTC CCG  
 ---  
 R \* S P G S F S A L R C S A S S L P  
 D I L R D R S R P F G A R P R R S R  
 M D S G I V L G P S V L G L V A P G  
 ---  
 D V V G E E G G G E V G V E I E D G  
 T W S A R K G A A R W E \* R S R T A  
 P G R R G R G R R G G S R G R D R R  
 ---  
 CCC AGG TGC TGC GGG AGA AGG GGC GGC GGG AGG TGA GGA TGG AGC TAG AGC AGC  
 15345 15354 15363 15372 15381 15390  
 GGG TCC AGG ACG CCC TCT TCC CCG CCG CCC TCC ACT CCT ACC TCG ATC TCG TCG  
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G S T P T P S S T P T P L L P R I S R R  
 G P R R P L P R R P P L L P R I S R R  
 V H D A L F P A A L H S Y L D L V A  
  
 L D P Q R Q E H E Q D A H L E T V G  
 W I P P S A S N M N R I P M S N P S V  
 G S R A P A T \* T G S R C P T R H C  
 ---  
 GGG TCT AGC CCG ACC GCG ACA AGT ACA AGG ACT AGC CGT ACC TCA AGC CAC TGT  
 15399 15408 15417 15426 15435 15444  
 CCC AGA TCG GGC TGG CGC TGT TCA TGT TCC TGA TCG GCA TGG AGT TCG GTG ACA  
 ---  
 P R S G W R C S C S \* S A W S S V T  
 P D R A G A V H V P D R H G V R \* H  
 Q I G L A L F M F L I G M E F G D T  
  
 V M T F A R A A G P G G H S D D A D A  
 W W S P A P R V P A A T P I T P T Q  
 G G H L R P G C R P R R P F R R R R  
 ---  
 GGG TGG TAC TTC GCG GCC CGG CGT GGC CCC GGC GGC ACC CTT AGC AGC CGC AGA  
 15453 15462 15471 15480 15489 15498  
 CCC ACC ATG AAG GCG CGG GCC GCA CCG GGG CCG CCG TGG GAA TCG TCG GCG TCT  
 ---  
 P T M K A R A A P G P P W E S S A S  
 P P \* R R G P H R G R G N R R R L  
 H H E G A G R T G A A V G I V G R V C  
  
 H R E G E A T S Q S V R Q V G A V G  
 T D N A R P Q A R P Y A S Y V P \* A  
 R T T R G R S H E P I R A T C R S R  
 ---  
 CGC ACA GCA AGC GGG AGC CGA CAC GAG ACC CTA TGC GCG ACA TGT GGC CGA TGC  
 15507 15516 15525 15534 15543 15552  
 GCG TGT CGT TCG CCC TCG GCT GTG CTC TGG GAT ACG CGC TGT ACA CCG GCT ACG  
 ---  
 A C R S P S A V L W D T R C T P A T  
 R V V R P R L C S G I R A V H R L R  
 V S F A L G C A L G Y A L Y T G Y A  
  
 R V A D A E Q R E G E E Q A D G H A  
 G S P T P K R G N V R K R P M A M L  
 G P R R R S G A T \* G R G P C R W S  
 ---  
 GGG GCC TGC CGC AGC CGA AGG ACG GCA AGT GGG AGA AGG ACC CGT AGC GGT ACT  
 15561 15570 15579 15588 15597 15606  
 CCC CGG ACG GCG TCG GCT TCC TGC CGT TCA CCC TCT TCC TGG GCA TCG CCA TGA  
 ---  
 P R T A S A S C R S P S S W A S P \*  
 P G R R R L P A V H P L P G H R H E  
 P D G V G F L P F T L F L G I A M S  
  
 H G G E G H Q R P Q Q H F A P H E L  
 T V A K G T S A R S S I S R P I S W  
 R S R R G R A P A A A S P V R S A G  
 ---  
 CGC ACT GGC GGA AGG GGC ACG ACC GCG CCG ACG ACT ACC TTG CGC CCT ACG AGG

15615				15624				15633				15642				15651				15651			
GCG	TGA	CCG	CCT	TCC	CCG	TGC	TGG	CGC	GGC	TGC	TGA	TGG	AAC	GCG	GGA	TGC	TCC						
A	*	P	P	S	P	C	W	R	G	C	*	W	N	A	G	C	S						
R	D	R	L	P	R	A	G	A	A	A	D	G	T	R	D	A	P						
V	T	A	F	P	P	V	L	A	R	L	L	M	E	R	G	M	L	Q					
G	P	R	A	G	V	G	D	H	P	G	G	G	G	I	E	G	A						
D	R	A	P	V	*	A	M	T	P	A	A	V	A	S	R	A	Q						
T	G	P	P	C	R	R	W	R	P	P	R	W	R	R	D	R	R						
TCA	GGG	CCC	GCC	CGT	GGA	TGC	GGT	AGC	ACC	CCC	GGC	GGT	GGC	GGC	TAG	ACC	GGA						
15669				15678				15687				15696				15705				15714			
AGT	CCC	GGG	CGG	GCA	CCT	ACG	CCA	TCG	TGG	GGG	CCG	CCA	CCG	CCG	ATC	TCG	CCT						
S	P	G	R	A	P	T	P	S	W	G	P	P	P	P	I	S	P						
V	P	G	G	H	L	R	H	R	G	G	R	H	R	R	R	S	L						
S	R	A	G	T	Y	A	I	V	G	A	A	T	A	D	L	A	C						
P	Q	Q	E	R	T	E	D	G	Q	Q	A	A	T	R	G	Q	A						
Q	S	S	S	A	P	R	T	A	R	N	R	P	P	E	G	R	P						
S	A	A	A	R	P	D	R	R	G	T	A	R	R	N	A	G	P						
CGA	CCG	ACG	ACG	AGC	GCC	CAG	AGC	AGC	GGG	ACA	ACG	CGC	CGC	CAA	GCG	GGG	ACC						
15723				15732				15741				15750				15759				15768			
GCT	GGC	TGC	TGC	TCG	CGG	GTC	TCG	TCG	CCC	TGT	TGC	GCG	GCG	GTT	CGC	CCC	TGG						
A	G	C	C	S	R	V	S	S	P	C	C	A	A	V	R	A	P	W					
L	A	A	A	R	G	S	R	R	P	V	A	A	R	R	F	A	P	G					
W	L	L	L	A	G	L	V	A	L	L	R	G	G	S	P	L	G						
H	Q	A	G	E	R	E	G	R	D	E	E	A	D	H	H	H	E						
T	S	R	V	R	A	S	V	A	T	K	K	P	T	M	T	T	S						
R	A	A	C	G	R	A	*	R	P	R	R	R	R	*	P	P	A						
CGC	ACG	ACG	CGT	GGG	AGC	GCG	AGT	GGC	GCC	AGA	AGA	AGC	CGC	AGT	ACC	ACC	ACG						
15777				15786				15795				15804				15813				15822			
GCG	TGC	TGC	GCA	CCC	TCG	CGC	TCA	CCG	CGG	TCT	TCT	TCG	GCG	TCA	TGG	TGG	TGC						
A	C	C	A	P	S	R	S	P	R	S	S	S	A	S	W	W	C						
R	A	A	H	P	R	A	H	R	G	L	L	R	R	H	G	G	A						
V	L	R	T	L	A	L	T	A	V	F	F	G	V	M	V	V	L						
D	A	G	G	Q	S	A	D	Q	L	P	R	L	A	P	Q	G	V						
T	R	G	A	K	R	R	T	R	S	R	G	S	R	R	S	G	S						
R	G	G	R	R	A	V	R	G	P	A	A	P	A	G	A	A	R						
AGC	AGG	CGG	GGC	GGA	ACG	CTG	CGC	AGG	ACC	TCG	CCG	GCC	TCG	CGG	CCG	ACG	GGC						
15831				15840				15849				15858				15867				15876			
TCG	TCC	GCC	CCG	CCT	TGC	GAC	GCG	TCC	TGG	AGC	GGC	CGG	AGC	GCC	GGC	TGC	CCG						
S	S	A	P	P	C	D	A	S	W	S	G	R	S	A	G	C	P						
R	P	P	R	L	A	T	R	P	G	A	A	G	A	P	A	C	A						
V	R	P	A	L	R	R	V	L	E	R	P	E	R	R	L	P	D						
A	A	H	E	C	Q	D	D	G	A	D	Q	Q	G	R	D	G	G						
P	P	T	S	V	S	I	M	G	P	T	R	S	D	A	T	A	V						

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R   R   R   A   *   V   S   *   G   R   R   G   A   T   R   P   R   W
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TGC CGC CGC ACG AGT GTG ACT AGT AGG GGC CGC AGG ACG ACA GGC GCC AGC GGT
15885          15894          15903          15912          15921          15930
ACG CGC GCG TGC TCA CAC TGA TCA TCC CCG GCG TCC TGC TGT CCG CGG TCG CCA
---
T   A   A   C   S   H   *   S   S   P   R   A   S   C   V   P   R   S   P
R   R   R   A   H   T   D   H   P   R   R   P   A   V   R   G   R   H
G   G   V   L   T   L   I   I   P   G   V   L   L   S   A   V   A   T
---
L   E   Y   A   D   M   E   D   E   A   G   E   Q   E   A   G   D   A
S   S   M   P   M   W   R   M   K   P   A   K   R   N   P   A   M   Q
R   A   *   L   C   G   D   *   R   R   R   R   G   T   R   R   W   R
---
GGC TCG AGT ATC CGT AGG TAG AGT AGA AGC CGC GGA AGG ACA AGC CGC GGT AGA
15939          15948          15957          15966          15975          15984
CCG AGC TCA TAG GCA TCC ATC TCA TCT TCG GCG CCT TCC TGT TCG GCG CCA TCT
---
P   S   S   *   A   S   I   S   S   S   A   P   S   C   S   A   P   S
R   A   H   R   H   P   S   H   L   R   R   L   P   V   R   R   H   L
E   L   I   G   I   H   L   I   F   G   A   F   L   F   G   A   I   C
---
R   L   G   R   R   G   Q   R   V   G   A   A   F   Q   L   F   E   D
G   F   V   A   G   A   R   A   S   A   R   P   L   S   C   S   S   T
G   S   S   R   A   P   G   P   P   R   G   R   C   V   A   P   V   R
---
CGG GCT TCT GGC GCG GCC GGG ACC GCC TGC GGG CGC CGT TTG ACG TCC TTG AGC
15993          16002          16011          16020          16029          16038
GCC CGA AGA CCG GCG CGG CCC TGG CGG ACG CCC GCG GCA AAC TGC AGG AAC TCG
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A   R   R   P   R   R   P   W   R   T   P   A   A   N   C   R   N   S
P   E   D   R   A   G   P   G   G   R   P   R   Q   T   A   G   E   T   R
P   K   T   A   P   A   L   A   D   A   R   G   K   L   Q   E   L   V
---
G   G   Y   Q   Q   R   R   E   E   G   R   D   A   Q   L   G   V   Q
V   A   T   S   N   G   G   N   K   A   E   T   P   R   F   V   S   R
*   R   R   V   T   A   A   T   R   R   R   P   R   G   S   S   R   G
---
AGT GGC GGC ATG ACA ACG GCG GCA AGA AGC GGA GCC AGC CGG ACT TCT GGC TGG
16047          16056          16065          16074          16083          16092
TCA CCG CCG TAC TGT TGC GCG CGT TCT TCG CCT CGG TCG GCC TGA AGA CCG ACC
---
S   P   P   Y   C   C   R   R   S   S   P   R   S   A   *   R   P   T
H   R   R   T   V   A   A   V   L   R   L   G   R   P   E   D   R   P
T   A   V   L   L   P   P   F   F   A   S   V   G   L   K   T   D   L
---
Q   L   E   A   P   A   A   A   G   Q   P   H   P   G   A   D   G   Q
S   C   S   P   R   P   P   P   A   R   H   T   H   A   P   T   A   R
A   A   V   R   G   P   R   R   R   G   T   P   T   P   R   R   R   G
---
ACG ACG TTG AGC CGG CCC GCG CGC CGC GGG ACA CCC ACA CCC GGC CGC AGC GGG
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---
C   C   N   S   A   G   A   A   A   P   C   G   C   G   P   A   S   P
A   A   T   R   P   G   R   R   R   P   V   G   V   G   G   R   R   R   P
L   Q   L   G   R   G   G   G   A   L   W   V   W   A   G   V   A   L

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Q H G D D A F Q R A A R R C R R Q H  
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 A P P R R R C V P P C R P P L P A S  
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 TGC TGG TGG CCG TCG TCG GCA AAC TGG CGG GCA GCG CGG CGG CAG CGG CGC TGA  
 ---  
 C W W P S S A N W R A A R R Q R R \*  
 A G G R R R Q T G G Q R G G S G A L M  
 L V A V V G K L A G S A A A A A L D  
 ---  
 R H L A D V G Q A D A H E H V A A S  
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 T P P A R R R G A C R R A \* S S G R  
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 V G G A R R R P A H R R A H E L P R  
 S V E R V D A L R I G V L M N C R G  
 ---  
 Q G F Q H D E G D P E F E A D Q C G  
 S V S S T I R V M P S S S P T R V G  
 V S R V P S G \* W R A R V R R G S V  
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 GAC TGA CCG AAC TGG TGA TCC TCA CCA TCG GGC TCG AAC TCG GCG TCC TGA CAC  
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 D \* P N W \* S S P S G S N S A S \* H  
 T D R T G D P H H R A R T R R P D T  
 L T E L V I L T I G L E L G V L T P  
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 A N N V M S T M T V R H A V T M V A  
 R T T \* W A P \* R \* G T R W R \* S R  
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 A A A R G A R G R R P A C R A R G Y  
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A A A R P A R P R R G A H R A R P Y  
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F R T G D N A S S P A A F E A R S I  
F A L E T T R Q R R H P S N Q G P F  
L L S N R R E S V V T R R I R G P F

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K S E F R R S L T T V R R I L P G K  
K A S S V V R \* R R C G E F C P G N

G S R T \* T I G E L I G V F R Q S H  
A P A P R P S E R L F V S L V S V I  
H R L P D L H N G \* S Y R C F A S \*

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ATG CCG GAG CGG GTC TAG GTG ATT CCC TCA AGA ATA CCG ACA AAA CGC TGA CTA

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C R S G S R \* F P Q E Y R Q N A D Y  
A G A G L G D S L K N T D K T L T M

D D F S H L D T R A P D L L G S F L  
I T L L I C I R A R R T W Y A Q F C  
S R \* F F A S G H A G P G T L R F V

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\* S S K E C R S V R A G S S K P E N  
D R Q K N A D P C A P G P V S L K T  
I V K R M Q I R A R R V Q \* A \* K Q

S T P Q H L Y G V Q V D T S E A D E  
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P L H T P A S L R G T C R H E R R R

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G R W V G A D S R P V H R C S R S L  
G G G L (V) Q I A D L Y I G A L G V F

Y R R T H A D F P G H F A A E I R G  
T G G H T L T S H A T S R P R \* G A  
R V A T H S R R I P R P V R G R D P

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V P P C V S V E W A V E R G L Y P A  
F L G L C V L E A P D G Y G A V D G  
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R L P R P V R A R R P R W L R R R G  
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P P E M A L R A A Q Q A V K R W G G  
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E G Q L D P L A A V A H E A R Q F E  
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 L A L E I R Q G C N G V F S A L E L  
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 A S L \* P V G S I S R H R I P G P K  
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 A D N Y G T P L I D R W R M G P G F  
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 \* R R R H A G A R T S C A A R S R G  
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 I G G D A L P P W C C K R P G F A R  
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 A L L G G L Q G A A G D R V A A P R  
 L C S V A S K G L P E I E S L H R G

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      V L R Q E R R A D G P A T G G V E A
      S S G N N G G L M V R P R A V S K L
      H S A T T G A S C * G P G H W R S *
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CAC TGC TCG GCA ACA AGG GCG GCT CGT AGT GGG CCC CGG CAC GGT GGC TGA AGT
      17181      17190      17199      17208      17217      17226
GTG ACG AGC CGT TGT TCC CGC CGA GCA TCA CCC GGG GCC GTG CCA CCG ACT TCA
-----
V T S R C S R R A S P G A V P P T S
* R A V V P A E H P G P C H R L Q
D E P L F P P S I T R G R A T D F S
-----
      G T D A L L E G G A A G G E N R H G
      A R I P W C N A V R L G A K T A I A
      R G Y R G A T R W G C G R R R Q S P
-----
CGC GGG CAT AGC CGG TCG TCA AGC GGT GGG CGT CGG GGC GGA AGC AAC GCT ACC
      17235      17244      17253      17262      17271      17280
CGC CCC GTA TCG GCC AGC AGT TCG CCA CCC GCA GCC CCG CCT TCG TTG CGA TGG
-----
A P V S A S S S P P A A P P S L R W
R P Y R P A V R H P Q P R L R C D G
A R I G Q Q F A T R S P A F V A M A
-----
      L N L V M H H V H G L A G Q G P G A
      S I * S W I I S T A S R A R A P A P
      R S E P G Y S P R P R A R G P R P R
-----
GGC TCT AAG TCC TGG TAT ACT ACC TGC ACC GGC TCG CGC GGG ACC GGC CCC GGC
      17289      17298      17307      17316      17325      17334
CCG AGA TTC AGG ACC ATA TGA TGG ACG TGG CCG AGC GCG CCC TGG CCG GGG CCG
-----
P R F R T I * W T W P S A P W P G P
R D S G P Y D G R G R A R P G R G R
E I Q D H M M D V A E R A L A G A G
-----
      D P H R V D G A D G E H V I V R L P
      M P I A S T A R T E K M F * * A F H
      C R S P P R R G R R R * S S D R S T
-----
CGT AGC CCT ACC GCC TGC AGC GGG CGC AGA GGA AGT ACT TGA TAG TGC GCT TCA
      17343      17352      17361      17370      17379      17388
GCA TCG GGA TGG CGG ACG TCG CCC GCG TCT CCT TCA TGA ACT ATC ACG CGA AGT
-----
A S G W R T S P A S P S * T I T R S
H R D G G R R P R L L H E L S R E V
I G M A D V A R V S F M N Y H A K W
-----
      R A T S F P P R P P A A T G T W T P
      D L L A S H R G P P H R Q G P G R P
      T S C H Q I A A Q P T G S D R D V H
-----
CCA GCT CGT CAC GAC TTA CCG CCG GAC CCC CCA CGG CGA CAG GGC CAG GTG CAC
      17397      17406      17415      17424      17433      17442
GGT GCA GCA GTG CTG AAT GGC GGC CTG GGG GGT GCC GCT GTC CCG GTC CAC GTG
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G R A V L N G G L G G A A V P V H V  
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I R G P S R G S A P G A V M Q Q G H  
F E A P L D A V Q P A L S W R S D M  
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E F G R E I G H L R G Q R P S A V H  
N S A G R S A T C G A S D H L L S M

F V D Y P G T L E G G A V V D Q L E  
S C M T R V P S S A G P S W T R C S  
P V C R V S R H A R G R R G R G A V

ACC TTG TGT AGC ATG CCT GGC CAC TCG AGC GGG GGC CGC TGG TGC AGG ACG TTG  
17505 17514 17523 17532 17541 17550

TGG AAC ACA TCG TAC GGA CCG GTG AGC TCG CCC CCG GCG ACC ACG TCC TGC AAC

W N T S Y G P V S S P P A T T S C N  
G T H R T D R \* A R P R R P A T  
E H I V R T G E L A P P G D H V L Q L

G R G R A Q H H G A G D K L N E F R  
A V A G P R T T D L A T R \* T R S D  
R W P G P G P P T W R R G E P E R I

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TCG CCA CGG CCC CGG GCC TGG TGG TGT CCA GCG CCG TCC TTC AGG TTC TCG AAT

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R H G P G P G G V Q R R P S G S R I  
A T A P G L V V S S A V L Q V L E S

R V P V F S S Y R C R R V S Y A R S  
G S Q S S H H I G A V V F P I H G H  
A P S P R I I F V P L S S R F I G T

GCG GCC TGA CCC TGC TTA CTA CTT ATG GCC GTT GCT GCT TGC CTT ATA CGG GCA  
17613 17622 17631 17640 17649 17658

CGC CGG ACT GGG ACG AAT GAT GAA TAC CGG CAA CGA CGA ACG GAA TAT GCC CGT

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A G L G R M M N T G N D E R N M P V  
P D W D E \* \* I P A T T N G I C P \* M

I G Q D G P P S G R E P P R P R S R  
Y G K I A R R V G E R R H G H D P D  
I D R S R G A S E R E G T A T T P I

CTA TAG GGA ACT AGC GGG CCG CCT GAG GGA GAG AGG CCA CCG GCA CCA GCC CTA

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 I S L D R P A D S L S P V A V V G I  
 Y P L I A R R T P S L R W P W S G S  
 I G T G R H H \* S A R R I R P G T S  
 S A P E G T T D V R G A F E P V Q Q  
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 L K R S S S M A P K S A S N K P M E  
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 P R E A E L M D P Q Q R L M L E V A  
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 P L C Q L V R A D R R V G Q C P G V  
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 W Q A L E H A G I P P H T L A G T R  
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 R H T R R P R C R R S H R R V A P L  
 G T H E G P D A G V V I A G S P Q F  
 V P T N A P T Q V \* S \* P A P R S S  
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 T G V F A G V C T Y D Y G A G R L E  
 P V C S P G S A P T T M A P D G W K  
 G A S C R R M S P S R R P P T R R T  
 V Q R V D V C P R P D A R R H A G H  
 S R G F M S A H V P I P A A T H A T  
 TCT GGA CGG CTT GTA GCT GCG TAC CTG CCC CTA GCC GCG CCG CCA CAC GCG GCA  
 18099 18108 18117 18126 18135 18144  
 AGA CCT GCC GAA CAT CGA GCG ATG GAC GGG GAT CGG CGC GGC GGT GTG CGC CGT  
 R P A E H R R M D G D R R G G V R R  
 D L P N I D A W T G I G A A V C A V  
 T C R T S T H G R G S A R R C A P C  
 W G R R E R A R G A R A W G R W R C  
 G V A D R V R E V Q A P G A E G D V  
 D L R T E \* A S S R R P G L R E M S  
 CAG GTT GGC GCA GAG AGT GCG CGA GCT GGA CGC GCC CGG GTC GGA GAG GTA GCT  
 18153 18162 18171 18180 18189 18198  
 GTC CAA CCG CGT CTC TCA GCG GCT CGA CCT GCG CGG GCC CAG CCT CTC CAT CGA  
 V Q P R L S R A R P A R A Q P L H R  
 S N R V S H A L D L R G P S L S I D  
 P T A S L T R S T C A G P A S P S T

```

      R   T   S   P   R   G   P   P   A   A   C   R   R   A   S   G   A   A
      G   R   A   R   G   G   Q   H   R   Q   V   G   G   R   L   A   Q   P
      V   A   H   E   A   E   R   T   A   S   C   V   A   A   C   L   R   R
      ---
GTG  GCG  CAC  GAG  CCG  GAG  GGA  CCA  CCG  CGA  CGT  GTG  GCG  GCG  CGT  CTC  GGA  CGC
      18207          18216          18225          18234          18243          18252
CAC  GCG  GTG  CTC  GGC  CTC  CCT  GGT  GGC  GCT  GCA  CAC  CGC  CGC  GCA  GAG  CCT  GCG
      ---
      H   R   V   L   G   L   P   G   G   A   A   H   R   R   A   E   P   A
      T   A   C   S   A   S   L   V   A   L   H   T   A   A   Q   S   L   R
      P   R   A   R   P   P   W   W   R   C   T   P   P   R   R   A   C   G
      ---
      R   R   T   C   R   P   A   P   R   P   R   *   G   A   P   T   V   P
      E   A   L   A   G   H   R   Q   G   P   A   D   V   Q   Q   H   *   R
      S   P   S   H   V   T   A   S   A   P   P   T   L   R   S   T   D   G
      ---
CGA  GCC  GCT  CAC  GTG  GCA  CCG  CGA  CCG  GCC  CCC  GCA  GTT  GGA  CGA  CCA  CAG  TGG
      18261          18270          18279          18288          18297          18306
GCT  CGG  CGA  GTG  CAC  CGT  GGC  GCT  GGC  CGG  GGG  CGT  CAA  CCT  GCT  GGT  GTC  ACC
      ---
      A   R   R   V   H   R   G   A   G   R   G   R   Q   P   A   G   V   T
      L   G   E   C   T   V   A   L   A   G   G   V   N   L   L   V   S   P
      S   A   S   A   P   W   R   W   P   G   A   S   T   C   W   C   H   R
      ---
      G   S   S   R   G   P   C   P   R   R   A   P   A   R   R   G   S   C
      A   L   R   D   G   Q   A   R   G   A   R   Q   R   G   V   A   P   A
      P   W   V   I   A   R   P   V   A   P   A   S   A   G   S   P   R   L
      ---
CCC  GGT  CTG  CTA  GCG  GGA  CCC  GTG  CCG  GCC  GCG  CGA  CCG  CGG  GCT  GCC  GGC  CTC
      18315          18324          18333          18342          18351          18360
GGG  CCA  GAC  GAT  CGC  CCT  GGG  CAC  GGC  CGG  CGC  GCT  GGC  GCC  CGA  CGG  CCG  GAG
      ---
      G   P   D   D   R   P   G   H   G   R   R   A   G   A   R   R   P   E
      G   Q   T   I   A   L   G   T   A   G   A   L   A   P   D   G   R   S
      A   R   R   S   P   W   A   R   P   A   R   W   R   P   T   A   G   A
      ---
      A   T   R   R   T   P   R   V   S   R   R   Q   R   T   P   R   R   S
      L   R   E   G   R   R   G   S   A   V   G   N   G   R   R   G   V   A
      L   G   N   A   A   D   A   P   R   *   A   T   A   A   D   A   S   P
      ---
GTT  CGG  CAA  GCG  GCG  CAG  CCG  GCC  TGC  GAT  GCG  GCA  ACG  GCG  CAG  CCG  GCT  GCC
      18369          18378          18387          18396          18405          18414
CAA  GCC  GTT  CGC  CGC  GTC  GGC  CGG  ACG  CTA  CGC  CGT  TGC  CGC  GTC  GGC  CGA  CGG
      ---
      Q   A   V   R   R   V   G   R   T   L   R   R   C   R   V   G   R   R
      K   P   F   A   A   S   A   G   R   Y   A   V   A   A   S   A   D   G
      S   R   S   P   R   R   P   D   A   T   P   L   P   R   R   P   T   A
      ---
      R   G   R   R   P   S   R   R   A   P   *   *   A   A   S   P   R   R
      V   A   A   A   L   A   A   A   H   Q   D   D   L   Q   Q   R   V   G
      *   P   R   P   S   P   Q   P   T   S   T   M   L   S   S   V   S   A
      ---
GAT  GCC  GGC  GCC  GCT  CCC  GAC  GCC  GCA  CGA  CCA  GTA  GTT  CGA  CGA  CTG  CCT  GCG
      18423          18432          18441          18450          18459          18468
CTA  CGG  CCG  CGG  CGA  GGG  CTG  CGG  CGT  GCT  GGT  CAT  CAA  GCT  GCT  GAC  GGA  CGC
      ---

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L R P R R G L R R A G H Q A A D G R  
 Y G R G E G C G V L V I K L L T D A  
 T A A A R A A A C W S S S C \* R T P  
 V R R H G P A P P A A R C R T \* G P  
 Y A V T V P H Q R H Q A A R E V L  
 T R S P S R T S A T S R P A A N L W  
 ---  
 GCA TGC GCT GCC ACT GGC CCA CGA CCG CCA CGA CGC GCC GTC GCG CAA GTT GGT  
 18477 18486 18495 18504 18513 18522  
 CGT ACG CGA CGG TGA CCG GGT GCT GGC GGT GCT GCG CGG CAG CGC GTT CAA CCA  
 ---  
 R T R R \* P G A G G A A R Q R V Q P  
 V R D G D R V L A V L R G S A F N Q  
 Y A T V T G C W R C C A A A R S T R  
 ---  
 R A C W R C \* P G R R A P G P A R D \*  
 V P A G V A D H G G A P L G L A V D  
 S P R V L P M M A G Q P C A W S C T  
 ---  
 CCT GCC CGC GTG GTT GCC GTA GTA CCG GGG GAC GCC CGT CCG GGT CCT CGT GCA  
 18531 18540 18549 18558 18567 18576  
 GGA CGG GCG CAC CAA CGG CAT CAT GGC CCC CTG CGG GCA GGC CCA GGA GCA CGT  
 ---  
 G R A H Q R H H G P L R A G P G A R  
 D G R T N G I M A P C G Q A Q E H V  
 T G A P T A S W P P A G R P R S T S  
 ---  
 S A R G S P R P R R Q R C R Q S R R  
 H P A G Q R G R A D S G V G N V E D  
 M L R A R V A A P T A A S V T S K T  
 ---  
 GTA CTC CGC GCG GGA CTG CCG GCG CCC GCA GCG ACG GCT GTG GCA ACT GAA GCA  
 18585 18594 18603 18612 18621 18630  
 CAT GAG GCG CGC CCT GAC GGC GCG GGG CGT CGC TGC CGA CAC CGT TGA CTT CGT  
 ---  
 H E A R P D G R G R V C R H R \* L R  
 M R R A L T A A G V A A D T V D F V  
 \* G A P \* R P R A S L P T P L T S S  
 ---  
 P G R C R Y G G R R G W P S R R S R  
 L G V A G T G A E A V G H L D A R D  
 S A W P V P V R R P S G M S I P A I  
 ---  
 GCT CCG GGT GCC GTG GCC ATG GGC GGA GCC GCT GGG GTA CCT CTA GCC GCG CTA  
 18639 18648 18657 18666 18675 18684  
 CGA GGC CCA CGG CAC CGG TAC CCG CCT CGG CGA CCC CAT GGA GAT CGG CGC GAT  
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 R G P R H R Y P P R R P H G D R R D  
 E A H G T G T R L G D P M E I G A I  
 R P T A P V P A S A T P W R S A R S  
 ---  
 R R R R V H G S R D P A T R P R T P  
 G G D V S T V A G T L L R A R D P R  
 A A T \* P R S R E P \* S G H A T P D  
 ---  
 GCG GCG GCA GAT GCC TGC ACT GGC GAG GCC AGT CCT CGG CAC GCG CCA GCC CAG

18693				18702				18711				18720				18729				18738			
CGC	CGC	CGT	CTA	CGG	ACG	TGA	CCG	CTC	CGG	TCA	GGA	GCC	GTG	CGC	GGT	CGG	GTC						
R	R	R	L	R	T	*	P	L	R	S	G	A	V	R	G	R	V						
A	A	V	Y	G	R	D	R	S	G	Q	E	P	C	A	V	G	S						
P	P	S	T	D	V	T	A	P	V	R	S	R	A	R	S	G	R						
S	T	W	C	R	A	D	P	P	P	R	R	P	R	R	P	*	*						
H	L	G	V	D	P	M	Q	L	P	G	G	P	D	G	P	D	D						
T	F	D	L	M	P	C	R	S	P	A	A	P	T	A	P	T	M						
CCA	CTT	CAG	GTT	GTA	GCC	CGT	AGA	CCT	CCC	CCG	CGC	GCC	CCA	GCG	GCC	CCA	GTA						
18747				18756				18765				18774				18783							
18792																							
GGT	GAA	GTC	CAA	CAT	CGG	GCA	TCT	GGA	GGG	GGC	CGC	CGG	GGT	CGC	CGG	GGT	CAT						
G	E	V	Q	H	R	A	S	G	G	G	A	R	G	R	R	G	H						
V	K	S	N	I	G	H	L	E	G	A	A	G	V	A	G	V	I						
*	S	P	T	S	G	I	W	R	G	P	P	G	S	P	G	S	S						
P	S	G	R	G	R	R	P	G	S	G	P	W	G	A	P	R	R						
L	R	D	E	G	E	V	L	V	P	D	R	G	A	Q	Q	V	A						
L	A	I	R	A	R	S	S	S	R	I	G	A	L	R	S	S	P						
GTT	CCG	CTA	GGA	GCG	GGA	GCT	GCT	CCT	GGC	CTA	GGG	CCG	GTC	GGA	CGA	CCT	GCC						
18801				18810				18819				18828				18837							
18846																							
CAA	GGC	GAT	CCT	CGC	CCT	CGA	CGA	GGA	CCG	GAT	CCC	GGC	CAG	CCT	GCT	GGA	CGG						
Q	G	D	P	R	A	P	R	D	R	G	P	D	P	G	Q	P	A						
K	A	I	L	A	L	D	E	D	R	I	P	A	S	L	L	D	G						
R	R	S	S	P	S	T	R	T	G	S	R	P	A	C	W	T	A						
G	S	G	R	S	R	S	P	R	G	R	C	G	A	P	S	G	P						
V	R	V	G	L	D	V	P	G	A	E	V	D	P	Q	R	G	P						
S	G	F	G	S	I	S	Q	A	P	R	S	M	R	S	A	V	R						
GCT	GGG	CTT	GGG	GCT	CTA	GCT	GAC	CCG	GCC	GGA	GCT	GTA	GGC	CGA	CCG	CTG	GGC						
18855				18864				18873				18882				18891							
18900																							
CGA	CCC	GAA	CCC	CGA	GAT	CGA	CTG	GGC	CGG	CCT	CGA	CAT	CCG	GCT	GGC	GAC	CCG						
R	P	E	P	R	D	R	L	G	R	P	R	H	P	A	G	D	P						
D	P	N	P	E	I	D	W	A	G	L	D	I	R	L	A	T	R						
T	R	T	P	R	S	T	G	P	A	S	T	S	G	W	R	P	G						
G	A	T	A	R	A	D	A	G	G	G	P	P	Q	T	R	N	R						
G	Q	R	P	G	L	T	R	V	G	A	P	R	S	H	G	T	E						
A	R	G	H	G	S	R	G	C	G	R	R	A	A	T	D	P	K						
CCG	GGA	CGG	CAC	CGG	GCT	CGC	AGG	CGT	GGG	GGC	GGC	CCG	CCG	ACA	CAG	GCC	AAA						
18909				18918				18927				18936				18945							
18954																							
GGC	CCT	GCC	GTG	GCC	CGA	GCG	TCC	GCA	CCC	CCG	CCG	GGC	GGC	TGT	GTC	CGG	TTT						
G	P	A	V	A	R	A	S	A	P	P	P	G	G	C	V	S	F						
A	L	P	W	P	E	R	P	H	P	P	R	A	A	V	S	G	F						
P	C	R	G	P	S	V	R	T	P	A	G	R	L	C	P	V	S						
S	R	R	C	R	P	G	H	P	G	R	V	P	A	W	R	A	R						
A	V	A	A	G	H	G	M	H	D	E	F	L	R	G	G	R	G						

P \* P P V T A W T T R S C A G V A G  
 GCC GAT GCC GCC GTG GCA CCG GGT ACA CCA GGA GCT TGT CCG CGG GTG GCG CGG  
 18963 18972 18981 18990 18999 19008  
 CGG CTA CGG CGG CAC CGT GGC CCA TGT GGT CCT CGA ACA GGC GCC CAC CGC GCC  
 ---  
 R L R R H R G P C G P R T G A A H R A  
 G Y G G T V A H V V L E Q A P T A P  
 A T A A P W P M W S S N R R P P R P  
 ---  
 G G R A P A P R F G T G P T R P R G  
 G A G R R L R G S G Q E R H G R G G  
 A R G A G S G A P V R N G T D A A E  
 ---  
 GCG GGC GGG GCG CGG CCT CGG CCG GCC TTG GGA CAA GGG CCA CAG GCG CCG GAG  
 19017 19026 19035 19044 19053 19062  
 CGC CCG CCC GCG GCC GGA GCC GGC CGG AAC CCT GTT CCC GGT GTC CGC GGC CTC  
 ---  
 R P P R A G A G R N P V P G V R G L  
 A P P A P E P A G T L F P V S A A S  
 P A P R R S R P E P C S R C P R P P  
 ---  
 P P A G H G R P R A R R A P R P P R  
 R L R E T V A R G R E G L P D L L A  
 G S A S R S R A A A S A S R T S S P  
 ---  
 GGG CCT CCG CGA GGC ACT GGC GCG CCG GCG CGA GCG GCT CGC CCA GCT CCT CCC  
 19071 19080 19089 19098 19107 19116  
 CCC GGA GGC GCT CCG TGA CCG CGC GGC CGC GCT CGC CGA GCG GGT CGA GGA GGG  
 ---  
 P G G A P \* P R G R A R R A G R G G  
 P E A L R D R A A A L A E R V E E G  
 R R R S V T A R P R S P S G S R R A  
 ---  
 Q G P R P R A C G P G D A T G A P G  
 S V Q G R D P V G Q G M P L G R Q D  
 A S R A E T P C V R A W R C D G S T  
 ---  
 GCG ACT GGA CCG GAG CCA GCC CGT GTG GGA CCG GGT AGC CGT CAG GGG CGA CCA  
 19125 19134 19143 19152 19161 19170  
 CGC TGA CCT GGC CTC GGT CGG GCA CAC CCT GGC CCA TCG GCA GTC CCC GGT GGT  
 ---  
 R \* P G L G R A H P G P S A V P A G  
 A D L A S V G H T L A H R Q S P L V  
 L T W P R S G T P W P I G S S P R W S  
 ---  
 G P P R R P S R G P R V P R R A A R  
 V P R G D H R G A P V F Q G G P Q A  
 W R A A T T A V P R S S S A A P S R  
 ---  
 GGT GGC CCG CCG GCA GCA CCG CTG GCC GGC CCT GCT TGA CCG GCG GCC CGA CGC  
 19179 19188 19197 19206 19215 19224  
 CCA CCG GGC GGC CGT CGT GGC GAC CGG CCG GGA CGA ACT GGC CGC CGG GCT CGG  
 ---  
 P P G G R R G D R P G R T G R R A A  
 H R A A V V A T G R D E L A A G L R  
 T G R P S W R P A G T N W P P G C A

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A P W E P V R A R D R * R P R A A P
R Q G S L F G R G T E D G P G R Q R
A S A V * S G A G P T R T V P A A S G
---
CGC CGA CCG GTG AGT CCT TGG GCG CGG GCC AGA GCA GTG GCC CCG GCG CGA CGG
19233 19242 19251 19260 19269 19278
CGC GCT GGC CAC TCA GGA ACC CGC GCC CGG TCT CGT CAC CGG GGC CGC GCT GCC
---
R A G H S G T R A R S R H R G R A A
A L A T Q E P A P G L V T G A A L P
R W P L R N P R P V S S P G P R C R

H R G D R R P T R P D R T G T P R S
I G A T G D P H E R T V P G L P G P
S A P R G T Q T N E P * P D W H A P
---
CCT ACG GCC GGC AGG GCA GAC CCA CAA GAG CCC AGT GCC CAG GGT CAC CCG GCC
19287 19296 19305 19314 19323 19332
GGA TGC CGG CCG TCC CGT CTG GGT GTT CTC GGG TCA CGG GTC CCA GTG GGC CGG
---
G C R P S R L G V L G S R V P V G R
D A G R P V W V F S G H G S Q W A G
M P A V P S G C S R V T G P S G P G

P G R V A P L R A P R R R P S R R V
H A A F Q Q F G L R D E G L H D V F
I P R S S S S A S G T K A S T I S S
---
CTA CCC GGC GCT TGA CGA CCT TCG GCT CGG CCA GAA GCG GCT CCA CTA GCT GCT
19341 19350 19359 19368 19377 19386
GAT GGG CCG CGA ACT GCT GGA AGC CGA GCC GGT CTT CGC CGA GGT GAT CGA CGA
---
D G P R T A G S R A G L R R G D R R
M G R E L L E A E P V F A E V I D E
W A A N C W K P S R S S P R * S T N

P A P T * P P S R T R A G A S A A P
Q L R H E L L L D P E R G P L H Q Q
S S G T N L S S I P N E G R C I S S
---
TGA CCT CGG CCA CAA GTT CCT CCT CTA GCC CAA GAG CGG GGC CGT CTA CGA CGA
19395 19404 19413 19422 19431 19440
ACT GGA GCC GGT GTT CAA GGA GGA GAT CGG GTT CTC GCC CCG GCA GAT GCT GCT
---
T G A G V Q G G D R V L A P A D A A
L E P V F K E E I G F S P R Q M L L
W S R C S R R R S G S R P G R C C W

P R G C R P R R R G S W S R R S A A
L A V V G L D V A G L G H D E R H L
S P S W V S T S P A W V M I K A I C
---
CCT CCC GCT GGT GTG GCT CCA GCT GCC GCG GGT CTG GTA CTA GAA GCG CTA CGT
19449 19458 19467 19476 19485 19494
GGA GGG CGA CCA CAC CGA GGT CGA CGG CGC CCA GAC CAT GAT CTT CGC GAT GCA
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G G R P H R G R R P D H D L R D A  
 E G D H T E V D G A Q T M I F A M Q  
 R A T T P R S T A P R P \* S S R C S  
 R A R R A T A T V P R R A R R R \* R  
 E P E G R Q P P \* P A D L G G D R  
 S P S A A S H R D R P T S G A A T M  
 ---  
 CGA GCC CGA GCG GCG CGA CAC CGC CAG TGC CCC GCA GCT CGG GCG GCG GCA GTA  
 19503 19512 19521 19530 19539 19548  
 GCT CGG GCT CGC CGC GCT GTG GCG GTC ACG GGG CGT CGA GCC CGC CGC CGT CAT  
 ---  
 A R A R R A V A V T G R R A R R R H  
 L G L A A L W R S R G V E P A A V I  
 S G S P R C G G H G A S S P P P S S  
 ---  
 G S P R H S R R R R \* R R P A S R S  
 A V R D T L D G G G D G G P R Q G H  
 P W E T P S I A A A T V A P A S V T  
 ---  
 GCC GGT GAG CCA GCC ACT CTA GCG GCG GCG GCA GTG GCG GCC CCG CGA CTG GCA  
 19557 19566 19575 19584 19593 19602  
 CGG CCA CTC GGT CGG TGA GAT CGC CGC CGC CGT CAC CGC CGG GGC GCT GAC CGT  
 ---  
 R P L G R \* D R R R R H R R G A D R  
 G H S V G E I A A A V T A G A L T V  
 A T R S V R S P P P S P P G R \* P \*  
 ---  
 R R P G A S R G Y T A A A A R P R P  
 G V P G P Q D A T P R Q Q Q A L G R  
 V S P A R S I Q R L D S S S R S A A  
 ---  
 CTG GCT GCC CCG GGC CGA CTA GAC GGC ATC CAG CGA CGA CGA CGC GCT CCG GCG  
 19611 19620 19629 19638 19647 19656  
 GAC CGA CGG GGC CCG GCT GAT CTG CCG TAG GTC GCT GCT GCT GCG CGA GGC CGC  
 ---  
 D R R G P A D L P \* V A A A A R G R  
 T D G A R L I C R R S L L L R E A A  
 P T G P G \* S A V G R C C C A R P R  
 ---  
 A H R S P S P \* D A R R R P R R A A  
 P T A R H R H D T Q G E V L G G L P  
 P R P A I A I T L R G K S S A A S R  
 ---  
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 19665 19674 19683 19692 19701 19710  
 GGG GCG TGG GCG GAT GGC GAT GGT CAG TCT GCC CTT CGA CGA GGC CGC CGA GCG  
 ---  
 G A W R D G D G Q S A L R R G R A  
 G R G A M A M V S L P F D E A A E R  
 G V A R W R W S V C P S T R P P S G  
 ---  
 R P C H R P P R P W R T R S S T W R  
 E R A I V R H D R G D R G R R R G G  
 S A P L S A T T A A M A D E V V D V  
 ---  
 CGA GCG CCC GTT ACT GCG CCA CCA GCG CCG GTA GCG CAG GAG CTG CTG CAG GTG

		19719			19728			19737			19746			19755			19764	
GCT	CGC	GGG	CAA	TGA	CGC	GGT	GGT	CGC	GGC	CAT	CGC	GTC	CTC	GAC	GAC	GTC	CAC	
-----																		
A	R	G	Q	*	R	G	G	R	G	A	H	R	V	L	D	D	V	H
L	A	G	N	D	A	V	V	A	A	I	A	S	S	S	T	T	S	T
S	R	A	M	T	R	W	S	R	P	S	R	P	R	R	S	R	P	P
-----																		
S	R	R	H	G	R	R	P	R	S	P	R	R	G	S	S	R	R	R
H	D	G	T	V	G	A	L	D	L	L	D	D	A	A	P	G	V	V
T	I	E	P	S	G	P	S	T	S	F	T	T	P	R	Q	V	S	S
-----																		
GCA	CTA	GAG	GCC	ACT	GGG	GCC	GCT	CCA	GCT	CTT	CCA	GCA	GCC	GGC	GAC	CTG	GCT	
	19773			19782			19791			19800			19809			19818		
CGT	GAT	CTC	CGG	TGA	CCC	CGG	CGA	GGT	CGA	GAA	GGT	CGT	CGG	CCG	CTG	GAC	CGA	
-----																		
R	D	L	R	*	P	R	R	G	R	E	G	R	G	P	L	D	R	
V	I	S	G	D	P	G	E	V	E	K	V	V	G	R	A	W	T	D
*	S	P	V	T	P	A	R	S	R	R	S	S	A	A	G	P	T	
-----																		
P	A	P	R	V	A	P	R	R	R	R	P	R	G	C	G	A	C	
L	P	Q	D	Y	P	P	D	G	G	V	H	G	E	V	A	R	V	
S	P	S	T	T	R	R	T	A	E	S	T	A	K	W	L	G	C	
-----																		
GCT	CCC	CGA	CCA	GCA	TGC	CGC	CCA	GCG	GAG	GCT	GCA	CCG	GAA	GGT	GTC	GGG	CGT	
	19827			19836			19845			19854			19863			19872		
CGA	GGG	GCT	GGT	CGT	ACG	GCG	GGT	CGC	CTC	CGA	CGT	GGC	CTT	CCA	CAG	CCC	GCA	
-----																		
R	G	A	G	R	T	A	G	R	L	R	G	L	P	Q	P	A		
E	G	L	V	V	R	A	R	V	A	S	D	V	A	F	H	S	P	H
R	G	W	S	Y	G	G	S	P	P	T	W	P	S	T	A	R	T	
-----																		
P	G	G	A	R	G	A	A	R	P	R	R	R	A	S	D	W	R	
H	V	G	Q	E	V	P	Q	A	R	G	G	V	L	Q	T	G	A	
M	S	G	R	S	S	R	S	R	A	A	A	S	S	S	L	G	L	
-----																		
GTA	CCT	GGG	GGA	CGA	GCT	GGC	CGA	CGC	GCG	CCG	GCG	GCT	GCT	CGA	CTC	AGG	GTC	
	19881			19890			19899			19908			19917			19926		
CAT	GGA	CCC	CCT	GCT	CGA	CCG	GCT	GCG	CGC	GGC	CGC	CGA	CGA	GCT	GAG	TCC	CAG	
-----																		
H	G	P	P	A	R	P	A	A	R	G	R	R	R	A	E	S	Q	
M	D	P	L	L	D	R	L	R	A	A	A	D	E	L	S	P	S	
W	T	P	C	S	T	G	C	A	R	P	P	T	S	*	V	P	A	
-----																		
V	A	C	A	A	R	C	S	P	A	R	P	G	A	P	W	P	S	
C	R	V	R	R	E	V	R	R	R	E	R	V	R	P	G	R	H	
A	G	C	V	G	S	*	V	V	A	S	A	S	G	R	A	V	T	
-----																		
GCG	TGG	CGT	GTG	CGG	CGA	GAT	GTG	CTG	CCG	CGA	GCG	CCT	GGG	CGC	CCG	GTG	CCA	
	19935			19944			19953			19962			19971			19980		
CGC	ACC	GCA	CAC	GCC	GCT	CTA	CAC	GAC	GGC	GCT	CGC	GGA	CCC	GCG	GGC	CAC	GGT	
-----																		
R	T	A	H	A	A	L	H	D	G	A	R	G	P	A	G	H	G	
A	P	H	T	P	L	Y	T	T	A	L	A	D	P	R	A	T	V	
H	R	T	R	R	S	T	R	R	R	S	R	T	P	R	G	P	R	*
-----																		
R	R	R	R	T	S	P	P	S	G	A	C	G	P	A	A	R	R	
G	G	V	A	R	V	P	R	R	V	Q	A	V	R	H	P	E	G	

V A S P A Y Q A A F R R L G T T R S A  
CTG GCG GCT GCC GCG CAT GAC CCG CCG CTT GGA CCG GTT GGG CCA CCG CGA GCG  
19989 19998 20007 20016 20025 20034  
GAC CCG CGA CCG CCG GTA CTG GCG GCG GAA CCT GCG CAA CCC GGT GCG GCT CCG  
D R R R G R V L G G E P A Q P G A A R  
T A D G A Y W A A N L R N P V R L A  
P P T A R T G R R T C A T R C G S P  
R S \* R P P R P R G P T R R A T G  
G R D G R R G L V A V P R E D L Q G  
A A I V A A A S S P W R A N T S S D  
GCG GCG CTA GTG GCG CCG CCG GCT CCT GCC GGT GGC CCG CAA GCA GCT CGA CAG  
20043 20052 20061 20070 20079 20088  
CGC GCG GAT CAC CCG GCG GCG CGA GGA CCG CCA CCG GGT CGT CGA GCT GTC  
R R D H R G A R G R P P G V R R A V  
A A I T A A A E D G H R A F V E L S  
P R S P R R A P R T A T G R S S S C P  
A G R P R A S S G R S A P R V R R P  
R V G H D R V R D V L R Q G F A A H  
G C G T T A C E I W S V S A S R P T  
GGG CGT GGG GCA CCA GCG CGT GAG CTA GGT GCT CTG CGA CCG GCT TGC GCC GCA  
20097 20106 20115 20124 20133 20142  
CCC GCA CCC CGT GGT CCG GCA CTC GAT CCA CGA GAC GCT GGC CGA ACG CCG CGT  
P A P R G R A L D P R D A G R T R R  
P H P V V A H S I H E T L A E R G V  
R T P W S R T R S T R R W P N A A W  
P R T R R V S A V A C G A R P G S R  
L V H E D S R R \* P A V L G L G P G  
S S T N T P G V S R R L W G S A R V  
CCT CCT GCA CAA GCA GCC TGG CTG CGA TGC CCG GTT GGT CCG GCT CCG GCG CTG  
20151 20160 20169 20178 20187 20196  
GGA GGA CGT GTT CGT CCG ACC GAC GCT ACG GCG CAA CCA GCC CGA GGC CCG GAC  
G G R V R R T D A T A Q P A R G P D  
E D V F V G P T L R R N Q P E A R T  
R T C S S D R R Y G A T S P R P G P  
G R R R P R R G S G R R S R P S T P  
E A G G H A G G V A V A H A H V P R  
K R A A T P A A W Q W P T L T S Q D  
GAA GCG GCG GCG GCA CCC GCG GCG GGT GAC GGT GCC GCA CTC GCA CCT GAC CAG  
20205 20214 20223 20232 20241 20250  
CTT CCG CCG CCG CCG GCG GCG CCA CTG CCA CCG CGT GAG CGT GGA CTG GTC  
L P R R R G R R P L P R R E R G L V  
F R A A V G A A H C H G V S V D W S  
S A P P W A P P T A T A \* A W T G R

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      A   G   A   S   R   S   G   R   L   G   A   A   R   G   R   A   A   G
      R   E   L   R   V   P   F   V   E   F   D   Q   R   G   G   V   G   Q   L   V
      A   S   W   G   F   P   F   R   S   T   R   R   G   G   *   G   Q   C   C
-----
CCG CGA GGT CGG CTT GCC CTT GGA GCT TCA GGA CGG CGG GAT GGG GAC CGT CGT
      20259           20268           20277           20286           20295           20304
GGC GCT CCA GCC GAA CGG GAA CCT CGA AGT CCT GCC GCC CTA CCC CTG GCA GCA
-----
      G   A   P   A   E   R   E   P   R   S   P   A   A   L   P   L   A   A
      A   L   Q   P   N   G   N   L   E   V   L   P   P   Y   P   W   Q   H
      R   S   S   R   T   G   T   S   K   S   C   R   P   T   P   G   S   T
-----
      G   A   T   A   N   W   R   R   P   A   L   P   R   G   A   R   G   R   R
      A   R   Q   P   T   G   D   G   P   R   S   R   G   L   A   A   V   V
      R   G   S   H   R   E   M   A   P   A   R   A   A   S   R   P   W   S
-----
GGC GGG CGA CAC CGC AAG GTA GCG GCC CCG CGC TCG CCG GCT CGC GCC GGT GGT
      20313           20322           20331           20340           20349           20358
CCG CCC GCT GTG GCG TTC CAT CGC CGG GGC GCG AGC GGC CGA GCG CGG CCA CGA
-----
      P   P   A   V   A   F   H   R   R   G   A   S   G   R   A   R   P   R
      R   P   L   W   R   S   I   A   G   A   R   A   A   E   R   G   H   D
      A   R   C   G   V   P   S   P   G   R   E   R   P   S   A   A   T   T
-----
      R   S   G   C   A   A   P   C   A   R   R   R   R   P   C   R   G   A
      D   V   G   V   R   Q   Q   A   R   G   A   A   D   R   A   A   V   A
      T   S   E   W   V   S   S   P   V   G   P   P   T   A   P   L   S   R
-----
GCA GCT GAG GGT GTG CGA CGA CCC GTG CGG GCC GCC GCA GCG CCC GTC GCT GGA
      20367           20376           20385           20394           20403           20412
CGT CGA CTC CCA CAC GCT GCT GGG CAC GCC CGG CGG CGT CGC GGG CAG CGA CCT
-----
      R   R   L   P   H   A   A   G   H   A   R   R   R   R   G   Q   R   P
      V   D   S   H   T   L   L   G   T   P   G   G   V   A   G   S   D   L
      S   T   P   T   R   C   W   A   R   P   A   A   S   R   A   A   T   C
-----
      A   T   A   C   C   A   P   R   R   C   G   G   T   G   P   C   G   R
      P   Q   P   V   A   R   Q   V   V   V   A   A   R   V   R   A   A   V
      R   S   H   C   L   V   S   S   S   S   L   R   G   Y   G   P   L   W
-----
CGC CGA CAC CGT GTC GTG CGA CCT GCT GCT GTC GGC GGG CAT GGG CCC GTC GGT
      20421           20430           20439           20448           20457           20466
GCG GCT GTG GCA CAG CAC GCT GGA CGA CGA CAG CCG CCC GTA CCC GGG CAG CCA
-----
      A   A   V   A   Q   H   A   G   R   D   R   Q   P   P   V   P   G   Q   P
      R   L   W   H   S   T   L   D   D   D   S   R   P   P   Y   P   G   S   H
      G   C   G   T   A   R   W   T   T   T   A   A   R   T   R   A   A   T
-----
      G   *   R   R   P   S   R   G   P   R   R   A   P   P   *   T   G   P
      G   E   V   A   H   L   D   D   R   G   G   H   Q   R   D   R   E   Q
      A   R   L   P   T   S   I   T   G   A   A   T   S   A   T   V   N   R
-----
GCG GGA GTT GCC GCA CCT CTA GCA GGG CCG GCG GCA CGA CCG CCA GTG CAA GGA
      20475           20484           20493           20502           20511           20520
CGC CCT CAA CAG CGG CGT GGA GAT CGT CCC GGC CGC CGT GCT GGC GGT CAC GTT CCT
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R P Q R R P G R A G G H V P L  
A L N G V E I V P A A V L A G V T F P L  
P S T A W R S S R P P C W R S R S W

P R R R P R L A G R G G P C S S S G  
R G A R L A F L A A G E L V H R H G  
A A P A S P S S R R A R W S M V I V

CCG CCG GCC GCG GCT CCC GCT TCT CGC GGC GCG GGA GGT CCT GTA CTG CTA CTG  
20529 20538 20547 20556 20565 20574

GGC GGC CCG GCG CGA GGG CGA AGA GCG CCG CGC CCT CCA GGA CAT GAC GAT GAC

G A G R R R G R R A P R P P G H D D D  
A A G A E G E E R A L Q D M T M T  
R P A P R A K S A A P S R T \* R \* P

G P A S P P D A A S G P R G R P R P  
V R H Q R R T L P L D L D D A L A L  
W G T S V A P \* R C I W T T R S P S

GGT GGG CCA CGA CTG CCG CCC AGT CGC CGT CTA GGT CCA GCA GGC GCT CCC GCT  
20583 20592 20601 20610 20619 20628

CCA CCC GGT GCT GAC GGC GGG TCA GCG GCA GAT CCA GGT CGT CCG CGA GGG CGA

P P G A D G G S A A D P G R P R G R  
H P V L T A G Q R Q I Q V V R E G E  
T R C \* R R V S G R S S A R A R

P A A P R G S P R P R R R G S G R R  
H H P Q G G P R D R V G G V R V G G  
T T R S A E R V T A S A A S G F G A

CCA CCA CCG CGA CCG GAG GGC CTG CCA GCG CCT GCG GCG GCT GGG CTT GGG GCG  
20637 20646 20655 20664 20673 20682

GGT GGT GCG GCT GGC CTC CCG GAC GGT CCG GGA GCG CGC CGA CCC GAA CCC CCG

G G A A G L P D G R G R R R P E P R  
V V R L A S R T V A D A A D P N P A  
W C G W P P G R S R T P P T R T P P

A R G H R P G S P R A P G R R D P P  
P E D M G L G P R G R R V E G T Q R  
Q S T W A S A R V A A G S R A P R A

GAC CGA GCA GGT ACG GCT CCG GGC CTG CCG GCG CGG CCT GGA GCG GCC AGA CCG  
20691 20700 20709 20718 20727 20736

CTG GCT CGT CCA TGC CGA GGC CCG GAC GGC CGC GCC GGA CCT CGC CGG TCT GGC

L A R P C R G P D G R A G P R R S G  
W L V H A E A R T A A P D L A G L A  
G S S M P R P G R P R R T S P V W R

A T A A P G P R A G A R V P R G R G  
R P R Q Q V R A L V P E F R G V G A  
A R D S S S G P S C R S S G A S G P

CCG CCG CAG CGA CGA CCT GGG CCC GCT CGT GGC CGA GCT TGG CCG GCT GGG GCC

20745 GGC GCG GTC GCT GCT GGA CCC GGG CGA GCA CCG GCT CGA ACC GGC CGA CCC CGG  
 20754 GCG GTC GCT GCT GGA CCC GGG CGA GCA CCG GCT CGA ACC GGC CGA CCC CGG  
 20763 GCG GTC GCT GCT GGA CCC GGG CGA GCA CCG GCT CGA ACC GGC CGA CCC CGG  
 20772 GCG GTC GCT GCT GGA CCC GGG CGA GCA CCG GCT CGA ACC GGC CGA CCC CGG  
 20781 GCG GTC GCT GCT GGA CCC GGG CGA GCA CCG GCT CGA ACC GGC CGA CCC CGG  
 20790 GCG GTC GCT GCT GGA CCC GGG CGA GCA CCG GCT CGA ACC GGC CGA CCC CGG  
 G A R V A A G P G R E A P A R T G A D P R  
 A R S L L D P G E H R L E P A D P G  
 R G R C W T R A S T G S N R P T P A  
 P R G A A P R P P R V R S R N R N S  
 Q D G P P Q G L H A Y G R G T E I P  
 R T E R R S A S T P T G E V P K S Q  
 GGA CCA GAG GGC CGC CGA CCG GCT CCA CCC GCA TGG GAG CTG GCC AAA GCT AAC  
 20799 20808 20817 20826 20835 20844  
 CCT GGT CTC CCG GCG GCT GGC CGA GGT GGG CGT ACC CTC GAC CGG TTT CGA TTG  
 P G L P A A G R G G R T L D R F R L  
 L V S R R L A E V G V P S T G F D W  
 W S P G G W P R W A Y P R P V S I G  
 R R A V T R R D R H V A R E P A R A  
 A D L S Q G G T E T Y Q V S L H E R  
 L T S R S D A P R P T S C A \* T S E  
 CTC GCA GCT CGC TGA CAG GCG GCC AGA GCC ACA TGA CGT GCG AGT CCA CGA GAG  
 20853 20862 20871 20880 20889 20898  
 GAG CGT CGA GCG ACT GTC CGC CGG TCT CGG TGT ACT GCA CGC TCA GGT GCT CTC  
 E R R A T V R R S R C T A R S G A L  
 S V E R L S A G L G V L H A Q V L S  
 A S S D C P P V S V Y C T L R C S R  
 R R R T R P G A A P R R S T S R A P  
 G V G R G P G R Q Q V G H H R D R R  
 G S A E D Q A G S S S A T I D I A G  
 CGG GCT GCG GAG CAG GAC CCG GGG CGA CGA CCT GCG GCA CTA CAG CTA GCG CGG  
 20907 20916 20925 20934 20943 20952  
 GCC CGA CGC CTC GTC CTG GGC CCC GCT GCT GGA CGC CGT GAT GTC GAT CGC GCC  
 A R R L V L G P A A G R R D V D R A  
 P D A S S W A P L L D A V M S I A P  
 P T P R P G P R C W T P \* C R S R R  
 R R R P G G A A G C P R A R R R S \*  
 G G E H A E R L E A H D H V D V L D  
 A A K T P R G C S R R M T T C T S S I  
 CCG GCG GAA GCA CCC GGA GGG CGT CGA GGC GTA CCA GCA CGT GCA GCT GCT CTA  
 20961 20970 20979 20988 20997 21006  
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 G R L R G P P A A P H G R A R R R D  
 A A F V G L P Q L R M V V H V D E I  
 P P S W A S R S S A W S C T S T R S  
 R R R C A V P P P S P R P R A R D G  
 G D V A R W R L R R R D L D R E I G

V T S P V G G S A V T S T A S S G  
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21015 21024 21033 21042 21051 21060  
CAC CGT CGA CGG CAC GCC ACC GGA GGC GGC GAC GGT CGA GGT CGC GCT CGA TCC  
H R R R H A T G A G D G R G R A L R S  
T V D G T P E A A T V E V A L D P  
P S T A R H R R R R R S R S R I P  
R R R C R A R G P \* P R P P V G P P  
A D G V G H V G Q D R V P L S A R H  
R T A S V T C A R T V S S P S P R G T  
GGC GCA GCG GCT GTG GCA CGT GCG GGA CCA GTG CCT GCC CCT CCC TGC GGG CCA  
21069 21078 21087 21096 21105 21114  
CCG CGT CGC CGA CAC CGT GCA CGC CCT GGT CAC GGA CGG GGA GGG ACG CCC GGT  
P R R R H R A R P G H G R G G T P G  
R V A D T V H A L V T D G E G T R P V  
A S P T P C T P W S R T G R D A R W  
S G A R G A S G P P R A A P R A P C  
R A Q A A Q A V R H D L L R G R R V  
A L R R P R R \* G T T S C G A A G S  
CCG CTC GGA CGC GCC GGA CGC GAT GGG CCA CCA GCT CGT CGG CCG GCG CGG CCT  
21123 21132 21141 21150 21159 21168  
GGC GAG CCT GCG CGG CCT GCG CTA CCC GGT GGT CGA GCA GCC GGC CGC GCC GGA  
G E P A R P A L P G G R A A G R A G  
A S L R G L R Y P V V E Q P A A P D  
R A C A A C A T R W S S S R P R R T  
R R A P R R R P R P R P T T R P D T  
G V L R A A V R V R V H H R E R T Q  
V S S G P P S A S A S T T D N A P R  
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21177 21186 21195 21204 21213 21222  
CAC CGA CGA GCC GGG CGG CGA CGC GGA CGC GGA CGT GGT GTC GTT CGC GGG TCT  
H R R A G R R R G R G R G V V R G S  
T D E P G G D A D A D V V S F A G L  
P T S R A A T R T R T W C R S R V C  
A P P A A N G P A R R P A R A S R A  
R R L L Q T G P H E V L H A L L D R  
D G S S S R E R T S S S T R S C I A  
CAG CGG CCT CCT CGA CGC AAG GGC CCA CGA GCT GCT CCA CGC GCT CGT CTA GCG  
21231 21240 21249 21258 21267 21276  
GTC GCC GGA GGA GCT GCG TTC CCG GGT GCT CGA CGA GGT GCG CGA GCA GAT CGC  
V A G G A A F P G A R R G A R A D R  
S P E E L R S R V L D E V R E Q I A  
R R R S C V P G C S T R C A S R S R

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P S A V R G W P G A R E G G A P P A
L L H S E G G R G Q V N A A R Q H L
C S I R S A G V A R C T R R G S T S
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CGT CCT CTA CGC TGA GCG GGG GTG CCG GGA CGT GCA AGC GGC GGG CGA CCA CCT
21285 21294 21303 21312 21321 21330
GCA GGA GAT GCG ACT CGC CCC CAC GGC CCT GCA CGT TCG CCG CCC GCT GGT GGA
---
A G E D A T R P H G P A R S P P A G G
Q E M R L A P T A L H V R R P P L V E
R R C D S P P R P C T F A A R W W S
---
P A R S P S S P P P G G G A P S A G
L P E V R H H R H H D A A P Q L L A
C P S S E T I V T T T R R R S S F R
---
CGT CCC CGA GCT GAG CCA CTA CTG CCA CCA CCA GGC GGC GGC CGA CCT CTT CGC
21339 21348 21357 21366 21375 21384
GCA GGG GCT CGA CTC GGT GAT GAC GGT GGT GGT CCG CCG CCG GCT GGA GAA GCG
---
A G A R L G D D G G G P P P A G E A
Q G L D S V M T V V S R R R L E K R
R G S T R * * R W W S A A G W R S A
---
R G P R A P W C R R S A A W W * R C
E A P V H R G V D E P L Q G G D A V
R P R S T G A L M K Q F S G V M L S
---
GGA GCC GGC CCT GCA CGG CCG GTT GTA GAA GAC CTT CGA CGG GTG GTA GTC GCT
21393 21402 21411 21420 21429 21438
CCT CGG CCG GGA CGT GCC GGC CAA CAT CTT CTG GAA GCT GCC CAC CAT CAG CGA
---
P R P G R A G Q H L L E A A H H Q R
L G R D V P A N I F W K L P T I S D
S A G T C R P T S S G S C P P S A T
---
R R D G S R V G * P V G S P P R G H
D D I V Q G F A E R F V R R R V A M
M T S * R V S R R V S C G V A S P W
---
GTA GCA GCT AGT GGA CTG GCT TGC GGA GTG CCT TGT GGG CTG CCG CCT GCC GGT
21447 21456 21465 21474 21483 21492
CAT CGT CGA TCA CCT GAC CGA ACG CCT CAC GGA ACA CCC GAC GGC GGA CGG CCA
---
H R R S P D R T P H G T P D G G R P
I V D H L T E R L T E H P T A D G H
S S I T * P N A S R N T R R R T A M
---
T R F A S V G Y S M D A P S P P T F
R G S R V S E T V * T L L P R R P S
A D Q V C Q S R L E H * C P V A P H
---
ACG CAG GAC TTG CGT GAC TGA GGC ATT GAG TAC AGT CGT CCC CTG CCG CCC CAC
21501 21510 21519 21528 21537 21546
TGC GTC CTG AAC GCA CTG ACT CCG TAA CTC ATG TCA GCA GGG GAC GGC GGG GTG

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C V L N A L T P \* L M S A G D G G V  
A S \* T R H \* L R N S C Q Q G T A G \*  
R P E R T D S V T H V S R G R R G E

P G R W G A R F G L S F R F F V G T  
L A A G A P G S V \* P F G S F C A L  
F P R A L R G P F R P F V Q F V R W

TTT CCC GGC GCG GTC GGC CGG GCC TTT GGA TCC CTT TTG GAC TTT TTG TGC GGT  
21555 21564 21573 21582 21591 21600

AAA GGG CCG CGC CAG CCG GCC CGG AAA CCT AGG GAA AAC CTG AAA AAC ACG CCA

K G P R A Q P A R K P R E N L K N T P  
K G R A S R P R G N L G K T \* K T R Q  
R A A P A G P E T \* G K P E K H A S

R D N N P P S M R H W R S N G Q F S  
V I T T P R L C E I G D P T G K F R  
Y S R Q Q A S V N S A M Q L E R S V

CAT GCT AGC AAC AAC CCG CCT CTG TAA GCT ACG GTA GAC CTC AAG GGA ACT TTG  
21609 21618 21627 21636 21645 21654

GTA CGA TCG TTG TTG GGC GGA GAC ATT CGA TGC CAT CTG GAG TTC CCT TGA AAC

V R S L L G G D I R C H L E F P \* N  
Y D R C W A E T F D A I W S S L E T  
T I V V G R R H S M P S G V P L K R

R I Q R R Q G C P T P Y S P A \* I P  
G S R V A S V A L H P I H L R E Y Q  
V Q D S P A S R L T H S I F A S M N

CTG GAC TAG ACT GCC GCG ACT GGC GTT CCA CAC CCT ATA CTT CCG CGA GTA TAA  
21663 21672 21681 21690 21699 21708

GAC CTG ATC TGA CGG CGC TGA CCG CAA GGT GTG GGA TAT GAA GGC GCT CAT ATT

D L I \* R R \* P Q G V G Y E G A H I  
T \* S D G A D R K V W D (M) K A L I L  
P D L T A L T A R C G I \* R R S Y W (I)

P R P Q S S A A A S \* A Y R P W V V  
H A P N A R P Q P R N R M G R G F L  
T P P T P E L S R G I V C V E A L C

CCA CCC GCC CCA ACC GAG CTC CGA CGC CGG CTA ATG CGT ATG GAG CCG GTT TGT  
21717 21726 21735 21744 21753 21762

GGT GGG CGG GGT TGG CTC GAG GCT GCG GCC GAT TAC GCA TAC CTC GGC CAA ACA

G G R G W L E A A A D Y A Y L G Q T  
V G G V G S R L R P I T H T S A K Q  
W A G L A R G C G R L R I P R P N N

P G P P W Y F Q E R R H V P N W \* P  
Q D R H G I S S N E G I Y Q I G D L  
S T G T A L L V T R E \* T S S E M L

TGA CCA GGG CCA CCG GTT ATC TTG ACA AGA GAG GAT ACA TGA CCT AAG GTA GTT

21771 21780 21789 21798 21807 21816  
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 T G P G G Q \* N C S L L C T G F S H Q  
 L V P V A N I R T V L S Y V L D S I K  
 W S R W P I E L F S P M Y W I P S R  
 P R F I P P R S Q R R P S R P P S G  
 L G S Y R L D P N D D P R G R R L D  
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 G G R N I G G R D C R R G A D R A G G D  
 E A G I S E V G I V S G A T A E I  
 R P E Y R R S G L S S G R P R R R S  
 P K R P L R R P T R G P R \* R C G A  
 L S G H S V A R L E A Q V D G V D L  
 W A E T P S P A S N P R S T V \* M W  
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 L V G R A P Q G V G H E H G T V E E  
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 R T P R A G W P T P C S C P V T S S  
 R R R S R \* T G P R C S R R P R C R  
 A V V V E D H V Q A V V V D H V A D  
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 G D D D F V M Y L G D N Y V V D G I  
 A T T T S S C T W A T T T S W T A S  
 R S R P P S G G R C A R R A P \* A R  
 D V E H R V E A A V L G G R L D H E

T S K T A S K R R S L G A A C T M S  
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V D F V A D F R R D K P R A Q V M L  
S T S W R T S A A T S P P R R S C S  
G P R R G A C T R R P R V Q R S R G  
G P D G V R A P E A H G F K V L V A  
A R T A S G R L N P T A S S S S F P  
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A R V A D P R R F G V A E L D E N G  
P G S P T R A G S A W P N L T R T A  
P S R P R P S A G P G W S R G P S R  
P H G R D H L L G L V G P A V Q R D  
R T V A T T S F G W S G L L S R A I  
GGC CCA CTG GCG CCA GCA CCT CTT CGG GGT CCT GGG GTC CTC GCT GGA CCG CTA  
22149 22158 22167 22176 22185 22194  
CCG GGT GAC CGC GGT CGT GGA GAA GCC CCA GGA CGC CAG GAG CGA CCT GGC GAT  
P G D R G R G E A P G P Q E R P G D  
R V T A V V E K P Q D P R S D L A I  
G \* P R S W R S P R T P G A T W R S  
R R T R R \* S P R A R P R P R C G A  
D A H V G E A R G H V L G H G A D P  
T P T Y A K L E A T C S A T A P M R  
GCA GCC GCA CAT GCG GAA GTC GAG CCG GCA CGT GCT CCG GCA CCG GCC GTA GGC  
22203 22212 22221 22230 22239 22248  
CGT CGG CGT GTA CGC CTT CAG CTC GGC CGT GCA CGA GGC CGT GGC CGG CAT CCG  
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V G V Y A F S S A V H E A V A G I R  
S A C T P S A R P C T R P W P A S G  
T R A S R A P S \* R R G A T A P R G  
R G P P V L Q L D G V G Q L P Q G V  
G D Q R F S S S I V S A R C H S A S  
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22257 22266 22275 22284 22293 22302  
GCC GTC CTG GCG GAA CGA GCT GGA GAT CAC CGA CGC CCT GCA GTG GCT GGC CGA  
A V L A E R A G D H R R P A V A G R  
P S W R N E L E I T D A L Q W L A D  
R P G G T S W R S P T P C S G W P T

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      R  A  R  P  R  S  W  P  S  R  G  T  S  S  P  R  R  S
      V  P  V  L  D  A  G  R  H  D  V  P  V  P  L  V  D  R
      W  P  C  S  T  P  E  V  T  I  S  R  Y  Q  F  S  T  A
      ---
GGT  GCC  CGT  GCT  CCA  GCC  GAG  GTG  CCA  CTA  GCT  GGC  CAT  GAC  CTT  CCT  GCA  GCG
      22311          22320          22329          22338          22347          22356
CCA  CGG  GCA  CGA  GGT  CGG  CTC  CAC  GGT  GAT  CGA  CCG  GTA  CTG  GAA  GGA  CGT  CGC
      ---
      P  H  R  A  R  E  G  R  L  H  G  D  R  P  V  L  E  G  R  R
      H  G  H  E  V  G  S  T  V  I  D  R  Y  W  K  D  V  A
      T  G  T  R  S  A  P  R  *  S  T  G  T  G  R  T  S  R

      R  *  R  R  G  P  S  S  G  A  G  A  P  T  G  P  S  G
      A  D  G  V  D  Q  L  H  V  P  V  Q  Q  L  G  Q  L  G
      L  T  V  S  T  R  S  I  F  R  C  R  S  S  D  R  S  V
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CTC  GCA  GTG  GCT  GCA  GGA  CCT  CTA  CTT  GGC  CGT  GGA  CGA  CCT  CAG  GGA  CCT  CTG
      22365          22374          22383          22392          22401          22410
GAG  CGT  CAC  CGA  CGT  CCT  GGA  GAT  GAA  CCG  GCA  CCT  GCT  GGA  GTC  CCT  GGA  GAC
      ---
      E  S  R  H  R  R  P  G  D  E  P  A  P  A  G  V  P  G  D
      S  V  T  D  V  L  E  M  N  R  H  L  L  E  S  L  E  T
      A  S  P  T  S  W  R  *  T  G  T  C  W  S  P  W  R  P

      C  R  R  R  P  P  R  P  W  R  V  P  P  G  L  R  P  P
      A  D  V  A  L  H  V  L  G  A  F  Q  H  A  S  D  H  H
      R  M  S  P  S  T  S  S  A  L  S  S  T  P  R  T  T  T
      ---
GGC  GTA  GCT  GCC  GCT  CCA  CCT  GCT  CCG  GTC  GCT  TGA  CCA  CCC  GGC  TCA  GCA  CCA
      22419          22428          22437          22446          22455          22464
CCG  CAT  CGA  CGG  CGA  GGT  GGA  CGA  GGC  CAG  CGA  ACT  GGT  GGG  CCG  AGT  CGT  GGT
      ---
      P  H  R  R  G  R  G  G  R  G  Q  R  T  G  G  P  S  R  G
      R  I  D  G  E  V  D  E  A  S  E  L  V  G  G  R  V  V
      A  S  T  A  R  W  T  R  P  A  N  W  W  A  E  S  W  W

      P  P  P  S  S  R  R  S  G  C  R  R  D  R  R  *  R  G
      L  R  P  R  L  D  G  A  G  A  D  D  T  G  G  D  D  A
      S  A  P  A  F  I  E  P  E  R  M  T  P  G  A  T  M  P
      ---
CCT  CCG  CCC  CCG  CTT  CTA  GAG  GCC  GAG  GGC  GTA  GCA  GCC  AGG  GCG  GCA  GTA  GCC
      22473          22482          22491          22500          22509          22518
GGA  GGC  GGG  GGC  GAA  GAT  CTC  CGG  CTC  CCG  CAT  CGT  CGG  TCC  CGC  CGT  CAT  CGG
      ---
      G  G  G  G  E  D  L  R  L  P  H  R  R  S  R  R  H  R
      E  A  G  A  K  I  S  G  S  R  I  V  G  P  A  V  I  G
      R  R  G  R  R  S  P  A  P  A  S  S  V  P  P  S  S  A

      P  C  P  P  A  P  S  R  G  R  D  R  *  R  W  R  P  C
      R  V  R  H  H  L  V  G  V  E  T  G  E  G  G  D  L  A
      G  S  V  T  T  C  S  E  *  R  P  G  K  V  E  M  S  P
      ---
GGG  CCT  GTG  CCA  CCA  CGT  CCT  GAG  GAT  GGA  GCC  AGG  GAA  GTG  GAG  GTA  GCT  CCC
      22527          22536          22545          22554          22563          22572
CCC  GGA  CAC  GGT  GGT  GCA  GGA  CTC  CTA  CCT  CGG  TCC  CTT  CAC  CTC  CAT  CGA  GGG
      ---

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P G H G G A G L P A S L H H R G  
P D T V V Q D S Y L G P F T L S I R E G  
R T R W C R T P T S V P S P P S R A

S G P R A C R S G T S S R A A H R K  
V A P D R V A L D L V R D H Q T A S  
L Q R T A C L S I W Y E I T S R P A

GTT GAC GGC CCA GCG CGT GTC GCT CTA GGT CAT GAG CTA GCA CGA CGC ACC GCG  
22581 22590 22599 22608 22617 22626

CAA CTG CCG GGT CGC GCA CAG CGA GAT CCA GTA CTC GAT CGT GCT GCG TGG CGC

Q L P G R A Q R D P V L D R A A W R  
N C R V A H S E I Q Y S I V L R G A  
T A G S R R T A R S S T R S C C V A L

S R P L R G H R P S P S R G P S R P  
R D L S D G T D L V R H D A P L S G L  
E I S P T A R T S S E T I P R S V S

AAG CTA GCT CCC TCA GCG GGC ACA GCT CCT GAG CCA CTA GCC GGC CCT CTG GCT  
22635 22644 22653 22662 22671 22680

TTC GAT CGA GGG AGT CGC CCG TGT CGA GGA CTC GGT GAT CGG CCG GGA GAC CGA

F D R G S R P C R G L G D R P G D R  
S I E G V A R V E D S V I G R E T E  
R S R E S P V S R T R \* S A G R P R

S R R G G S T S R A G A P A P L G C  
H V G G G P R R G R V P Q H Q S V V  
T F A A G R V D V A C R S T S P S W

CCA CTT GCG GCG GGG GGC CTG CAG CTG GCG CGT GGC CGA CCA CGA CCC TCT GGT  
22689 22698 22707 22716 22725 22734

GGT GAA CGC CGC CCC CCG GAC GTC GAC CGC GCA CCG GCT GGT GCT GGG AGA CCA

G E R R P P D V D R A P A G A G R P  
V N A A P P R T S T A H R L V L G D H  
\* T P P P G R R P R T G W C W E T T

G P G P R R N F L G A S A P S A V T  
A P D L D A T S C A Q P P P P R S P  
L R T W T P P Q V P R R L R P V R R

GTC GGC CCA GGT CCA GCC GCC AAC TTG TCC GGA CGC CTC CGC CCC CTG CGC TGC  
22743 22752 22761 22770 22779 22788

CAG CCG GGT CCA GGT CGG CGG TTG AAC AGG CCT GCG GAG GCG GGG GAC GCG ACG

Q P G P G R R L N R P A E A G D A T  
S R V Q V G G \* T G L R R G G T R R  
A G S R S A V E Q A C G G G G R D G

F A A \* P F M R S P L A P A S R P R  
S P P K R S C A L R C R P H P V P V  
H L R S V P V H S V A A R T R F P S

CAC TTC CGC CGA ATG CCC TTG TAC GCT CTG CCG TCG CGC CCA CGC CTT GCC CCT

22797 22806 22815 22824 22833 22842  
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 V K A A Y G N M R D G S A G A E R G E1  
 \* R R L T G T C E T A A R V R N G D  
 E G G R L R E H A R R Q R G C G T G T  
 C T R T M P P A P K M P E W Y T R S  
 A R G P \* R H L P S \* R S G T R A R  
 P V D Q D D T S R A E D A G L V H A  
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 GCC GTG CAG GAC CAG TAG CCA CCT CGC CCG AAG TAG CCG AGG GTC ATG CAC GCG  
 22851 22860 22869 22878 22887 22896  
 CGG CAC GTC CTG GTC ATC GGT GGA GCG GGC TTC ATC GGC TCC CAG TAC GTG GCG  
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 R H V L V I G G A G F I G S Q Y V R  
 G T S W S S V E R A S S A P S T C A  
 A R P G H R W S G L H R L P V R A R  
 ---  
 S T R S P S G A R T V T S S L S V \*  
 V P G P R R D P A P S R A P C A S R  
 F Q D P V A I R R P H G H Q V L Q G  
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 CTT GAC CAG GCC CTG CCG CTA GGC CGC GCC CAC TGG CAC GAC CTG TTC GAC TGG  
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 GAA CTG GTC CGG GAC GGC GAT CCG GCG CGG GTG ACC GTG CTG GAC AAG CTG ACC  
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 E L V R D G D P A R V T V L D K L T  
 N W S G T A I R R G \* P C W T S \* P  
 T G P G R R S G A G D R A G Q A D L  
 ---  
 A P F R A F R S G T A P R Y V K T C  
 R R S G P S G P A P R R G T C R R A  
 V G P V Q R V Q L R D G A P V G E H  
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 T P G T W R T W S R S P A G T P S C  
 R R E P G E P G A G R R P V H L R A  
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 P S M Q S A L S S A S T T G P W S R  
 R R C R R H W A A R R P P G R G R D  
 V A V D A I G P Q E G L H D G A V I  
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 H G D I C D A R L L A E V V P G H D  
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 R R H L R C Q A A R R G G P R P R S  
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 P P \* S R P R I A R R G T S R R R P

Q H D V E R G F R V D V P R D G V R  
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 W W S T S R P N R T S T G R S P T R  
 G G Q L R G R I A R R P V D R R R G  
 G N M R V L T C P T W A S M C T H R  
 A T \* V Y W H A P R G P V \* A P T H G  
 R R E Y T G I H L A D L C E H L H A  
 CGC GGC AAG TAT GCA TGG TTA CAC GTC CCG CAG GTC CGT GAG TAC GTC CAC AGC  
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 GCG CCG TTC ATA CGT ACC AAT GTG CAG GGC GTC CAG GCA CTC ATG CAG GTG TGC  
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 R R S Y V P M C R A S R H S C R C A  
 A V H T Y Q C A G R P G T H A G V P  
 S A P V A L I T C T E V S S T Y P L  
 P P R C P W S R A P R W R R P T R C  
 Q L G A R G P D H L D G G V L H V A  
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 23175 23184 23193 23202 23211 23220  
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 L E A G T A R G I V Q V S P T D E V Y G  
 W R P A R P G S C R S P P T R C T A  
 G G R H G Q D R A G L H R R G V R Q  
 M S V P E Q S S S A G I A G L E G \*  
 C R S P S R P R P R A S R G W S A R  
 A D L R A G P V L V R R D G G V R G  
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 H R D G L L G R G R A D R P Q L A L  
 A A D L A P P S M T A R A \* A R V W  
 R P T W P P R R C P R G R R R G C G  
 V R R G L R A A V H D G E G V G A G  
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 23283 23292 23301 23310 23319 23328  
 TAC GCG GCG TCC AAG GCG GGC GGC GAC ATG GTC GCC CTC GCC TAC GCC CGC ACC  
 Y A A S K A G G D M V A L A Y A R T  
 T R R P R A A T W S P S P T P A P  
 R G V Q G G R R H G R P R L R P H P

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      P   S   G   T   L   T   V   R   H   P   L   L   *   P   G   *   *   N
      H   A   A   P   S   R   S   A   T   R   C   V   S   V   P   G   R   I   D   T
M   P   Q   R   H   A   H   R   P   A   A   C   V   V   V   P   G   I   L
GTA CCC GAC GGC CAC TCG CAC TGC GCC ACG CCG TTG TTG ATG CCC GGG ATA GTC
    23337      23346      23355      23364      23373      23382
CAT GGG CTG CCG GTG AGC GTG ACG CGG TGC GGC AAC AAC TAC GGG CCC TAT CAG
    -----
      H   G   L   P   V   S   V   T   R   G   C   G   N   N   Y   G   P   Y   Q
      M   G   C   A   *   A   *   R   G   A   A   T   T   T   G   P   I   S
      W   A   A   G   E   R   D   A   V   R   Q   Q   L   R   A   L   S   V

      G   S   F   T   T   G   S   N   V   V   R   S   S   S   P   W   L   M
      G   P   S   P   R   E   A   T   *   W   G   A   A   P   R   G   C   C
      E   R   L   L   D   N   R   Q   E   G   G   P   Q   Q   V   A   V   A
AAG GGC CTC TTC CAG CAA GGC GAC AAG TGG TGG GCC GAC GAC CTG CCG GTG TCG
    23391      23400      23409      23418      23427      23436
TTC CCG GAG AAG GTC GTT CCG CTG TTC ACC ACC CGG CTG CTG GAC GGC CAC AGC
    -----
      F   P   E   K   V   V   P   L   F   T   T   R   L   L   D   G   H   S
      S   R   R   R   S   F   R   C   S   P   P   G   C   W   T   A   T   A
      P   G   E   G   R   S   A   V   H   H   P   P   A   A   G   R   P   Q   H

      G   S   Y   P   S   P   P   L   T   R   S   Q   T   C   T   D   S   W
      G   A   T   R   P   H   R   C   R   G   P   S   P   A   R   T   R   G
      D   R   Q   V   P   I   A   A   V   D   P   V   P   H   V   H   G   V
TAG GGC GAC ATG CCC CTA CCG CCG TTG CAG GCC CTG ACC CAC GTG CAC AGG CTG
    23445      23454      23463      23472      23481      23490
ATC CCG CTG TAC GGG GAT GGC GGC AAC GTC CGG GAC TGG GTG CAC GTG TCC GAC
    -----
      I   P   L   Y   G   D   G   G   N   V   R   D   W   V   H   V   S   D
      S   R   C   T   G   M   A   A   T   S   G   T   G   C   T   C   P   T
      P   A   V   R   G   W   R   Q   R   P   G   L   G   A   R   V   R   P

      T   R   P   M   R   S   T   A   S   R   P   S   G   P   C   T   *   W
      R   A   P   C   G   A   P   R   R   V   R   A   A   P   A   P   R   G
      V   H   P   A   D   P   Q   D   G   F   A   P   Q   R   P   L   D   V
GTG CAC GCC CCG TAG GCC GAC CAG CGG CTT GCG CCC GAC GGC CCC GTC CAG ATG
    23499      23508      23517      23526      23535      23544
CAC GTG CGG GGC ATC CGG CTG GTC GCC GAA CGC GGG CTG CCG GGG CAG GTC TAC
    -----
      H   V   R   G   I   R   L   V   A   E   R   G   L   P   G   Q   V   Y
      T   C   G   A   S   G   W   S   P   N   A   G   C   R   G   R   S   T
      R   A   G   H   P   A   G   R   R   T   R   A   A   G   A   G   L   P

      M   A   P   E   A   S   S   V   L   R   S   S   V   C   C   S   S   S
      C   R   P   S   P   R   A   S   W   D   P   V   S   A   V   V   A   P
      V   D   R   A   R   G   L   Q   G   I   Q   F   Q   R   L   L   Q   Q
GTG TAG CGC CCG AGC CGG CTC GAC TGG TTA GAC CTT GAC TGC GTT GTT GAC GAC
    23553      23562      23571      23580      23589      23598
CAC ATC GCG GGC TCG GCC GAG CTG ACC AAT CTG GAA CTG ACG CAA CAA CTG CTG
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H I A G S A E L T N L E L T Q Q L L  
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 H R G L G R A D Q S G T D A T T A G  
  
 A R P A P Q S R T S R T G S R F P C  
 R G P R R S P G P R A H V R G S P V  
 V G Q A G A P V P D L T Y G V P L S  
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 GAC GCC CTG GGC GCC GGC TGG GAC CGG GTC GAG CGT GTA CCC GAC CGG AAG GGA  
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 V V P A V R Q A V G A E A R E A V C  
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 G H T T R A L G R R C R A S T R R S  
 G T H R E L L A E G V G H A P V G L  
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 P C V V R A R P R R H R A L V R R E  
  
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 G P S T P A T S R A R A T R R C P E  
 V P V P P L R Q V L A R Q G V A H S  
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 P G L V G A V E R A R A V R R H G S  
  
 A T G V A G M V L P S G A R P S G R  
 P R A S L V W S \* P L A R G R A E G  
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 W P C R Q H P \* L G E S P P A G F P  
 G R A D S T H D \* G R A R P P R A S P  
  
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 E S V S N K T E R Q K G S K G P S S K  
 K A S R I R Q K A N N E L N E L L N  
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 I A C Q R T V P P A P K M P E C T A  
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 (M) A H C L V T G G A G F I G S H V A Q2  
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 P P E A \* G R A G P I P G R R G \* R  
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 V A G V H H A A H V E D V R R Q S G  
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 D P D A G V V D P G T G R Q L R Q R  
 T P M R E S S I P V P A D S Y G N A

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      S V * P R A R A P F S S A S G P G A
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GCT TTG AGT GCC AGC TCG CGC TCG ACC TTT GCT GCT ACG CCT GGG TCC CGG ACG
    24363      24372      24381      24390      24399      24408
CGA AAC TCA CGG TCG AGC GCG AGC TGG AAA CGA CGA TGC GGA CCC AGG GCC TGC
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      E T H G R A R A G N D D A D P G P A
      K L T V R E R E L E T T M R T Q G L P

      E G C E T H V V H V A F P L V H A V
      K V A N R I C L T Y P S H C F M R S
      R * R M G Y A C R T R R I A S C A R
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CCT TCA CCG CAT TCC GTA TGC ACA ACG TGT ACG CGC AAT GGC AGA ACA TGC GCG
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      L H R H I P Y A Q R V R R M A E H A R
      F T A F R M H N V Y G E W Q N M R D

      G I A I R D G N E E V L D Q A T L R
      G * R L A T A M K K L W I R R P S G
      G R D C H P R W K R * G S G A R H A
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TGG GGA TAG CGT TAC GCC AGC GGT AAA AGA AGT TGG TCT AGG ACG CGC CAC TCG
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ACC CCT ATC GCA ATG CGG TCG CCA TTT TCT TCA ACC AGA TCC TGC GCG GTG AGC
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      P L S Q C G R H F L Q P D P A R * A
      P Y R N A V A I F F N Q I L R G E P

      D R D V A V A T L H P R E A V D L V
      I E T * P S P P * T R A N L * T L S
      S R P R R R R R D P A P T * S R * P
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GCT AGA GCC AGA TGC CGC TGC CGC CAG TCC ACG CCC GCA AGT CGA TGC AGT TCC
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CGA TCT CGG TCT ACG GCG ACG GCG GTC AGG TGC GGG CGT TCA GCT ACG TCA AGG
      ---
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      D L G L R R R R S G A G V Q L R Q G
      I S V Y G D G G Q V R A F S Y V K D

      D H V D D H A G G L R L L G P A P G
      M T S T M T R A G S V S F A Q P R A
      C R P R * R A R G R S P S P R P G P
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TGT AGC ACC TGC AGT AGC ACG CGC GGG GGC TCT GCC TCT TCC GGA CCC CGG CCC
    24579      24588      24597      24606      24615      24624
ACA TCG TGG ACG TCA TCG TGC GCG CCC CCG AGA CGG AGA AGG CCT GGG GCC GGG
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T S W T S S C A P P R R R P G A G  
H R G R H R A R P R D G E R G L G P G  
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R L T P E D R V L V T S S A W A T  
R \* R R S T G C W C R A P A P G P R

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L Q R R L V P H Q H R A G A G P G R  
F N V G S S R T N T V L E L A Q A V

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A H P P R H G W G G W R A G A R G P

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A C G A G R C P Q P P H R A P A R P G  
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L H H D G V G G G L L G A L D E A V  
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R P S P R R C R W R P P G R P R R R

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R G D G R L H R H R G G P R G L R R  
E V M V A Y T A T E E A R E V F G D

P R V G R Q R V P E G P G G R P G G  
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S P P C G A P P R A R G S R R T P R

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L G G H P A G G R A R P D R V G R  
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E T P G A S S R E E K S I S I P P S  
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 G N S E R S \* D S A S G T \* T R A V  
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 V Q Q A L R G L L P G V R E E R R E  
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 Y L L S Q P P Q E R A D A F F A A F  
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 R H R S L G A D L D E G Q L A A F L  
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 V Q A A G L E D H L H V A D G V H F  
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 E P E G V H L R H L E G P E A V E V  
 S R S A S T S D I S N A P S P W K S  
 V G A R R R P T S P T R R A R G S R  
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 25335 25344 25353 25362 25371 25380  
 AAC TCC GGC TCG CCG AGC TGG AGT CGA TGG AGT TCG CCG GGC TCG GCC ACT TCG  
 N S G S P T W S R W S S P G S A T S  
 T P A R R R G V D G V R A R P L R  
 L R L A D V E S M E F A G L G H F D

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      G R E A C P E E V V H L P G P L Q E
      A V S Q A P S R * W T C A R G Q S S
      R W A R R L A G R G R A A A R P A A
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TGC GGT GCG AGA CGC GTC CCG AGG AGA TGG TGC ACG TCG CCG GGA CCC TCG ACG
    25389          25398          25407          25416          25425          25434
ACG CCA CGC TCT GCG CAG GGC TCC TCT ACC ACG TGC AGC GGC CCT GGG AGC TGC
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T P R S A Q G S S T T C S G P G S C
R H A L R R A P L P R A A A L G A A
A T L C A G L L Y H V Q R P W E L L
-----
      G V D A G D G V A E V E G G V V P A
      A S M P E R T E S Q R * R E V W * Q P
      R R C R S R E R S G R G R W G S P
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AGC GGC TGT AGC CGA GGC AGA GGC TGA CGG AGA TGG AGA GGT GGG TGA TGA CCC
    25443          25452          25461          25470          25479          25488
TCG CCG ACA TCG GCT CCG TCT CCG ACT GCC TCT ACC TCT CCA CCC ACT ACT GGG
-----
S P T S A P S P T A S T S P P T T G
R R H R L R L R L P L P L H P L L G
A D I G S V S D C L Y L S T H Y W G
-----
      A R V S H G V E V T R P G G R G R L
      L E S P I V S R S P V R D V G D A F
      C S P R F S R G R R Y A T W G T R S
-----
CGT CGA GCC TGC CTT ACT GGC TGG AGC TGC CAT GCG CCA GGT GGG GCA GGC GCT
    25497          25506          25515          25524          25533          25542
GCA GCT CGG ACG GAA TGA CCG ACC TCG ACG GTA CGC GGT CCA CCC CGT CCG CGA
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A A R T E * P R T S T V R A G P P R P R
Q L G R N D R P R R Y A V H P V R E
S S D G M T D L D G T R S T P S A K
-----
      G G R A G P G R G * R R R A S A P G
      V V G L G L G A A E A D V H A P Q V
      S W G S G W A R P R L T S T R Q S S
-----
TCT GGT GGG GCT CGG GGT CCG GGC GCC GGA GTC GCA GCT GCA CGC GAC CGA CCT
    25551          25560          25569          25578          25587          25596
AGA CCA CCC CGA GCC CCA GGC CCG CGG CCT CAG CGT CGA CGT GCG CTG GCT GGA
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R P P R A P G P R P Q R R R A L A G
D H P E P Q A R G L S V D V R W L D
T T P S P R P A A S A S T C A G W T
-----
      A T A S A R G P A P P S * R H R P A
      P R R Q H A G Q L L R A E G I D L H
      R G D S I R A R S C A P K V S T S T
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GGC CGG CAG CGA CTA CGC GCG GGA CCT CGT CCG CCC GAA GTG GCT ACA GCT CCA
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CCG GCC GTC GCT GAT GCG CGC CCT GGA GCA GGC GGG CTT CAC CGA TGT CGA GGT
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P A R V A D A R P G A G L H R C R G  
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G R R \* C A P W S R R A S P M S R C

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Q V L P G R C L D A V D R G A A L  
S C S R A V A S T Q S M T A A Q R L

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GCT GCA CGA GCG GGC CAC GGC AGA GGT CTG CGA CAT CGT CGC GGC CTG CCG CAA

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L H E R A T A E V C D I V A A C R K  
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G A H G A R S A A R V L R F S A D  
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P A C P A R S D A A R T R R K E D A S

H G R R C Q V P G R R D L P E S P V  
M V V A V S S R A A A I S R N R R S  
W S W P S V P G P R P S R A T G V P

GGT ACT GGT GCC GCT GTG ACC TGG CCC GGC GCC GCT AGC TCG CCA AGG CTG CCC  
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CCA TGA CCA CGG CGA CAC TGG ACC GGG CCG CGG CGA TCG AGC GGT TCC GAC GGC

P \* P R R H W T G P R R S S G S D G  
H D H G D T G P G R G D R A V P T G  
(M) T T A T L D R A A A I E R F R R D 01

A E R V R A R N E G R V R D G T E L  
P K A F A P G T R A G S A I A R R L  
R S R S R P G P E R G P R S R G D \*

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R L R E R G P G S R P G R D R P S Q  
G F A N A G P V L A P D A I A R L K

R A G F P E D G A E G V L A Q A G V  
A P A S R S M V R K V S S P R R E S  
P P R R V A \* \* G S \* R R P G A S R

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 G G R R T A H H P L H R R G P A L R  
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 V V P V E G D L A I L T G D E V A H  
 S \* Q F K G T S P S S R G T R \* R T  
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 R L L E L P R R G R \* A S R P L P R  
 D Y W N F P V E G D E R P V L Y R V  
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 C L K S F C S Q A G S R S R S C R S  
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 H N L E K Q D W A P E R D L L H R E  
 F Q R L E G G R E H V A R D H G G G  
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 Y A L V L K E P Y R A A E V P W H R  
 V A D V D A R A R D A I Q A D A Q V  
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H G R \* R R G A C P R C D S C R G P  
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 \* P R Q R R P A H G L Q S E H L P G  
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 V G S R V V S A Q L R N R S R V Q E  
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 G P R V A P A R L A A G G L A L C V  
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 T R P H R R R P E R C A A E R Q A D  
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 P A A P P A P \* A L R R R A P G R H  
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 D F P L D P L R E S S S \* T \* R R S  
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 I E R Q V R E S F G \* G L C S P P R  
 S N G R S G S L S D E D Y V H R L E  
 R T A G Q G V F R (M) E R I M F T A S N *GT1*  
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 P R S M V H A H H G Q G P R Q A G R  
 Q A P C \* M H M T G R A Q A S R A A  
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 L G G T L H V H G A P G L G A A R R  
 W A G H Y M C M V P L A W A L R A A  
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 P V R S G P P T G A T A P V R P R R  
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R P A \* C R S R C S T R A R T H W K A  
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P Q R E I H L G H V C R R L G T R P  
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G S G S C G N V P C G I C D S L S K  
A A A A A G T \* R A A S A T A \* R S

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P L P L H P F T G Q P M Q S L N D F

V G A V Q A V E P L L R D V R H L A  
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D A G D L R D F W K K S I D A V Q R

A I V V R H A E A V V P P G V Q H H  
L \* S L A T L K P S W Q R G S R T T  
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26847 26856 26865 26874 26883 26892

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Q L \* Q R G E L R R P L A A R P P G G  
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V V D H G D L A C Q D G R E P A H R  
C S M M A T S P A S T A A S R P T G  
A R C \* P R R P R V P R R A G P R A

ACG TGC TGT AGT ACC GGC AGC TCC CGC GTG ACC AGC GGC GCG AGG CCC CGC ACG

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C	T	T	S	W	P	S	R	A	H	W	S	P	R	S	G	A	C						
A	R	H	H	G	R	R	G	R	T	G	R	R	A	P	G	R	A						
H	D	I	M	A	V	E	G	A	L	V	A	A	L	R	G	V	P						
A	D	I	H	R	G	P	E	D	A	G	H	L	G	L	R	P	E						
L	T	*	T	D	G	P	N	M	P	V	T	S	V	S	G	P	S						
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GCT	CGC	AGA	TAC	ACA	GCG	GGC	CCA	AGT	AGC	CGT	GGC	ACC	TCT	GGC	TCG	GCC	CCG						
26955				26964				26973				26982			26991		27000						
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S	V	Y	V	S	P	G	F	I	G	T	V	E	T	E	P	G	L						
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R	G	P	R	P	P	G	A	T	T	S	R	S	T	R	R	S	T						
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27009				27018				27027				27036			27045		27054						
TCG	ACC	TGG	TCT	CGG	CGG	ACC	CGC	TGT	CGT	GCT	TCG	AGA	AGT	ACG	GCG	TCG	AGT						
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R	P	G	L	G	G	P	A	V	V	L	R	E	V	R	R	R	V						
D	L	V	S	A	D	P	L	S	C	F	E	K	Y	G	V	E	W						
A	A	V	P	D	L	V	R	H	V	G	*	R	V	H	R	H	R						
P	R	S	R	I	W	Y	A	T	S	G	E	G	S	T	A	T	G						
P	G	R	G	S	G	T	R	P	P	G	R	V	P	R	P	P	A						
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G	A	A	T	G	S	S	T	R	W	T	P	H	R	T	W	R	C						
G	P	R	P	D	P	V	R	G	G	P	L	T	G	R	G	A	A						
G	R	D	R	I	Q	Y	A	V	D	P	S	P	D	V	A	V	P						
R	Q	A	V	R	Q	P	Q	G	H	A	V	H	G	V	V	A	G						
G	S	P	S	A	S	R	S	G	M	R	*	T	G	*	L	P	A						
A	A	P	R	R	A	A	A	A	W	A	S	R	A	R	C	R	R						
GCG	GCG	ACC	CGC	TGC	GCG	ACG	CCG	ACG	GGT	ACG	CGA	TGC	ACG	GGA	TGT	TGC	CGC						
27117				27126				27135				27144			27153		27162						
CGC	CGC	TGG	GCG	ACG	CGC	TGC	GGC	TGC	CCA	TGC	GCT	ACG	TGC	CCT	ACA	ACG	GCG						
R	R	W	A	T	R	C	G	C	P	C	A	T	C	P	T	T	A						
A	A	G	R	R	A	A	A	A	H	A	L	R	A	L	Q	R	R						
P	L	G	D	A	L	R	L	P	M	R	Y	V	P	Y	N	G	A						
L	A	R	V	R	P	L	Q	P	R	D	P	A	S	A	H	A	D						
W	P	A	S	G	H	C	S	P	G	I	R	P	L	R	T	H	M						

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R P V P L Q L P G L R R G H Q A A V  
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G R T R \* S S G R P A C G P R R \* P I  
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P R V R Q E L P R G A P G R R Q G I  
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Q C R Y G P R V V V L A A D A E E G  
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L T P V P G S H D D Q G G V C F L T  
\* H R Y P G R T T T R A A S A S P  
D T G T R V A R R P G R R L L P H P

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      K K S V A C A * P A P M A S A P S A
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 R S A F D (M) T D T T A P S L A S L A  
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 T G S H W I R S V P R S G S C T V A

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P G R I G Y G P S R G A G P A R \* R  
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 GCC AGG GGC TTA CGG TAT AGG CCC TCT GGC CGG ACG AGG GCC TCG TGC AGT GGC  
 31275 31284 31293 31302 31311 31320  
 CGG TCC CCG AAT GCC ATA TCC GGG AGA CCG GCC TGC TCC CGG AGC ACG TCA CCG  
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 R S P R N A I Y S G R P A C S R S T S P  
 G P R M P Y P G D R P A P G A R H R  
 V P E C H I R E T G L L P E H V T A  
 ---  
 E P P L T H Q G H A A Q Q A G G F Q  
 K R R C P T S A T R A R G A S G R R V  
 R G A A P H A P R A R G A S G R R V  
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 GGA AGG CCG CCG TCC CAC ACG ACC GGC ACG CGC CGG ACG ACT CGG GGC GGC TTG  
 31329 31338 31347 31356 31365 31374  
 CCT TCC GGC GGC AGG GTG TGC TGG CCG TGC GCG GCC TGC TGA GCC CCG CCG AAC  
 ---  
 P S G A R V C A W P C A A C \* A P P N  
 L P A A G C A G R A R P A E P R R T  
 F R R Q G V L A V R G L L S P A E L  
 ---  
 L R H L L R R G A Q D V V G P A G P  
 S D T C S A A A P R I S S A Q R V R  
 P T P A P P P P R G S R R R A C G  
 ---  
 ACC TCA GCC ACG TCC TCC GCC GCC GGC CGG ACT AGC TGC TGC GGA CCG CGT GGC  
 31383 31392 31401 31410 31419 31428  
 TGG AGT CGG TGC AGG AGG CGG CGG CCG GCC TGA TCG ACG ACG CCT GGC GCA CCC  
 ---  
 W S R C R G R R P A \* S T T P G A P  
 G V G A G G G G R P D R R R L A H P  
 E S V Q E A A A G L I D D A W R T R  
 ---  
 G H V V G D P R Q L G V L G V R G R  
 D M C S V M Q V S S G W S G S A A G  
 T W A R C W R S A P A G R A R R P G  
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 31437 31446 31455 31464 31473 31482  
 GGT CCA TGC ACG ACA CCA TCT GGA CGC TGG AGC CCC ACG AGC CCG ACG CGG CCC  
 ---  
 G P C T T P S G R W S P T S P T R P  
 V H A R H H L D A G A P R A R R G P  
 S M H D T I W T L E P H E P D A A P  
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 D A D L V D H V L G R H H G P Q R A  
 T R M S Y T M S L D G T I A R S A P  
 P G C R T R \* P C T G P S P G A P P  
 ---  
 GCC AGG CGT AGC TCA TGC AGT ACC TGT TCA GGG GCC ACT ACC GGG CCG ACC GCC  
 31491 31500 31509 31518 31527 31536  
 CGG TCC GCA TCG AGT ACG TCA TGG ACA AGT CCC CGG TGA TGG CCC GGC TGG CGG  
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 R S A S S T S W T S P R \* W P G W R  
 G P H R V R H G Q V P G D G P A G G  
 V R I E Y V M D K S P V M A R L A G

M R Q Q Q A G H L G Q T D P R V E D G  
W G S S S R A M S V R T P A S F K M G  
G D A A A A R W P S G R P R A S S \* G  
CGG TAG GCG ACG ACG ACG CGC GGT ACC TCT GGG ACC AGC CGG GCT TGA AGT AGG  
31545 31554 31563 31572 31581 31590  
GCC ATC CGC TGC TGC TGC GCG CCA TGG AGA CCC TGG TCG GGC CGA ACT TCA TCC  
A I R C C C A P W R P W S G R T S S  
P S A A A A R H G D P G R A E L H P  
H P L L L R A M E T L V G P N F I P  
G P V A H H E L G G R A R G P Q G P  
V Q S L M T N L V V A P A G R S A Q  
W R P C C P T \* S W R P R A G A P R  
GGT GGA CCC TGT CGT ACC ACA AGT TCT GGT GGC GCC CGC GCG GGG CCG ACC GGA  
31599 31608 31617 31626 31635 31644  
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H L G Q H G V Q D H R G R A P A G L  
T W D S M V F K T T A G A P L A W  
V T V A L H V G I G D G D G A A T A  
C R S P W I Y E S A T A T V P P P R  
A G H R G S T S R H R R R \* R R R D  
CCG TGG CAC TGC CGG TCT ACA TGA GGC TAC GGC AGC GGC AGT GGC CGC CGC CAG  
31653 31662 31671 31680 31689 31698  
GGC ACC GTG ACG GCC AGA TGT ACT CCG ATG CCG TCG CCG TCA CCG GCG GCG GTC  
G T V T A R C T P M P S P S P A A V  
A P \* R P D V L R C R R R H R A R S  
H R D G Q M Y S D A V A V T G G G R  
D D V H A D V E V V R G L V V T D P  
T M S T P M \* R S W A G S S L Q T Q  
R \* R R P C R G R G R A R P C S H R  
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A S S T W A S T S T T R P R T T V S  
R H R R G H L P R P R A R G Q L C L  
V I D V G I Y L D H A P E D N C V W  
G D R L G V V P L V L L D G L G G V  
A M G C D L \* Q S S S C T V S V A S  
P W G A T W S S P P R A P \* R S R R  
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31761 31770 31779 31788 31797 31806  
GGG CCA TCC CGC AGT CCA ACT ACT GGG AGG ACG AGC AGG TCA CCG AGA CCG CCG



G P P S R A S P T T S' R' S' P P P P  
 A H I P Q S Q N Y W E D E Q V T E T A R R  
 P E V G G L P V R G P G D G G H H P  
 R S L A V S H S A V P A T G A T I R  
 G A \* R W R T P R S R P R G R R S A  
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 ACC GGC TCA ACG CCA CCG AGT GGG ACG CGA CCG GGG CCG TCC CCG CCG TGA TGC  
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 T G S T P P S G T R P G P S P P \* C  
 P A Q R H R V G R D R G R P R D A  
 R L N A T E W D A T G A V P A R V M R  
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 R A V G Q Q V V D Q C Q V A G R R H  
 G P S A R S C L M R V S C P A G A T  
 A P R R G A A C C G S V A R R G P P  
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 P G D A L L H N I L T L H G A P A V  
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 T P L C R L T T \* \* S Y R G P S T S  
 P P C A A C P R R S R T G A R R P P  
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 G G Q A A Q G R L L R V P A R R G G  
 V G K Q R R V V Y Y E Y R P G E V E  
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 T L E A R V H G L V H P E L L L H Q  
 R \* S P G C T G S Y T P S L C C T S  
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 A R T G P A A P R T R P A G P R P A  
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32031			32040			32049			32058			32067			32076		
TGC	CGC	CGT	GCC	TGG	AGC	AGC	GGG	CCG	CGT	CCG	GGG	AGC	ACC	GGG	ACG	AGG	AGC
C	A	R	A	W	S	S	G	P	R	P	G	S	T	G	T	R	S
A	R	V	P	G	A	A	G	R	V	R	G	A	P	G	R	G	A
R	A	C	L	E	Q	R	A	A	S	G	E	H	R	D	E	E	P
E	L	V	A	R	H	L	L	V	P	E	P	V	L	R	G	R	I
K	S	Y	R	G	T	S	C	Y	R	S	Q	S	S	D	G	A	D
R	R	T	G	G	P	P	A	T	G	A	R	P	R	T	A	R	S
GGA	AGC	TCA	TGG	CGG	GCC	ACC	TCG	TCA	TGG	CCG	AGA	CCC	TGC	TCA	CGC	GGC	GCT
32085			32094				32103		32112			32121				32130	
CCT	TCG	AGT	ACC	GCC	CGG	TGG	AGC	AGT	ACC	GGC	TCT	GGG	ACG	AGT	CGC	CCG	CGA
P	S	S	T	A	R	W	S	S	T	G	S	G	T	S	R	P	R
L	R	V	P	P	G	A	V	P	A	L	G	R	V	A	R	D	
F	E	Y	R	P	V	E	Q	Y	R	L	W	D	E	S	P	A	I
G	A	Q	P	E	R	V	L	L	V	P	P	P	S	G	A	S	G
E	P	R	R	N	G	C	S	S	Y	Q	R	H	H	V	Q	Q	A
R	R	G	A	T	G	A	R	P	T	S	A	T	T	F	R	S	L
AGA	GGC	CGG	ACG	CCA	AGG	GCG	TGC	TCC	TCA	TGA	CCG	CCA	CCA	CTT	GGA	CGA	CTC
32139			32148			32157			32166			32175			32184		
TCT	CCG	GCC	TGC	GGT	TCC	CGC	ACG	AGG	AGT	ACT	GGC	GGT	GGT	GAA	CCT	GCT	GAG
S	P	A	C	G	S	R	T	R	S	T	G	G	G	E	P	A	E
L	R	P	A	V	P	A	R	G	V	L	A	V	V	N	L	L	S
S	G	L	R	F	P	H	E	E	Y	W	R	W	*	T	C	*	A
G	A	A	A	P	R	A	R	G	P	A	P	A	A	G	P	R	A
A	Q	R	Q	Q	A	R	E	G	R	R	R	R	A	R	A	A	L
R	R	G	S	S	P	A	S	A	G	A	G	A	R	G	P	P	S
GGC	GGA	CGG	CGA	CGA	CCC	GCG	CGA	GCG	GGG	CCG	CGG	CCG	CGC	GGG	CCC	GCC	GCT
32193			32202			32211			32220			32229			32238		
CCG	CCT	GCC	GCT	GCT	GGG	CGC	GCT	CGC	CCC	GGC	GCC	GGC	GCG	CCC	GGG	CGG	CGA
P	P	A	A	G	R	A	R	P	G	A	G	A	P	G	R	R	
R	L	P	L	L	G	A	L	A	P	A	P	A	P	P	G	E	
A	C	R	C	W	A	R	S	P	R	R	R	R	A	R	A	A	S
W	R	G	P	P	*	R	R	A	S	G	P	A	S	R	D	A	G
G	G	G	L	L	D	D	G	L	A	E	P	L	P	G	I	R	A
G	V	A	W	S	T	M	A	S	R	K	R	S	R	V	S	G	R
CGG	GTG	CGC	GGT	CCT	CCA	GTA	GCG	GCT	CGC	GAA	GGC	CCT	CGC	CTG	GCT	AGG	CGC
32247			32256			32265			32274			32283					

G F P S Q A \* A W R S R R L A S A S  
 GGG GCC GCT GAC CCG GAT GCG GGT AGA CGA GCT GGA GGC GTT GCG CGA CCG GCT  
 32301 32310 32319 32328 32337 32346  
 CCC CGG CGA CTG GGC CTA CGC CCA TCT GCT CGA CCT CCG CAA CGC GCT GGC CGA  
 P R R L G L R P S A R P P Q R A G R  
 P G D W A Y A H L L D L R N A L A E  
 P A T G P T P I C S T S A T R W P S  
 A R R P T P A S A R S R L P C R A T  
 L E G P R R P A P E V E S R A G R R  
 C S A P A D P R Q S S K P A P V E G  
 CGT CGA GCG GCC CCG CAG CCC CGC GAC CGA GCT GAA GCC TCG CCC GTG GAG CGG  
 32355 32364 32373 32382 32391 32400  
 GCA GCT CGC CGG GGC GTC GGG GCG CTG GCT CGA CTT CGG AGC GGG CAC CTC GCC  
 A A R R G V G A L A R L R S G H L A  
 Q L A G A S G R W L D F G A G T S P  
 S S P G R R G A G S T S E R A P R R  
 G R G A G R R G A P S P R S A R R R  
 V A V Q E G A G P Q L R G L H A A A  
 Y R S R S G P A R S S V A S I R P P  
 CAT GGC GCT GGA CGA GGG GCC GCG GGC CGA CCT CTG CCG GCT CTA CGC GCC GCC  
 32409 32418 32427 32436 32445 32454  
 GTA CCG CGA CCT GCT CCC CGG CCG CCG GCT GGA GAC GGC CGA GAT GCG CGG CGG  
 V P R P A P R R P A G D G R D A R R  
 Y R D L L P G A R L E T A E M R R G  
 T A T C S P A P G W R R P R C A A A  
 P G S P P D R A P R P R A T R G A P  
 L V Q R R I V L Q V L G P Q A A Q R  
 S S R V A S \* S S S S A P S H P R G  
 GCT CCT GGA CTG CCG CCT AGT GCT CGA CCT GCT CCG GCC CGA CAC GCC GGA CGG  
 32463 32472 32481 32490 32499 32508  
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 R G P D G G S R A G R G R A V R P A  
 E D L T A D H E L D E A G L C G L P  
 R T \* R R I T S W T R P G C A A C R  
 R S T R R H A R W G P G P V R S P G  
 V A R E V T H E G G L D Q F V H R V  
 S P E N S P T S E V W T R S C T V S  
 CCT GCC GAG CAA GCT GCC ACA CGA GAG GTG GGT CCA GGA CCT TGT GCA CTG CCT  
 32517 32526 32535 32544 32553 32562  
 GGA CGG CTC GTT CGA CGG TGT GCT CTC CAC CCA GGT CCT GGA ACA CGT GAC GGA  
 G R L V R R C A L H P G P G T R D G  
 D G S F D G V L S T Q V L E H V T D  
 T A R S T V C S P P R S W N T \* R T

P G A D A R P A G A A A P A R C A P  
 R V Q M Q A L R E P Q Q P R A A P Q  
 G S R C R R S A S R S S R G P P L S  
 ---  
 GGG CCT GGA CGT AGA CGC GCT CCG CGA GGC CGA CGA CGC CGG CCC GCC GTC CGA  
 32571 32580 32589 32598 32607 32616  
 CCC GGA CCT GCA TCT GCG CGA GGC GCT CCG GCT GCT GCG GCC GGG CGG CAG GCT  
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 P G P A S A R G A P A A A A G R Q A  
 P D L H L R E A L R L R P G G R L  
 R T C I C A R R S G C C G R A A G W  
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 A T W A H R R P P A R R A P G T A S  
 H Q G R M A D P L L V A P L V Q P A  
 T S D V C P T Q S S C P P C S R H R  
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 32625 32634 32643 32652 32661 32670  
 GGT GCT GTC CAC GCA TGG CGT CTG GGA GGA GCA CGG CGG GCA GGA CCT GTG GCG  
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 G A V H A W R L G G A R R A G P V A  
 V L S T H G V W E H G Q D L W R  
 C C P R M A S G R S T A G R T C G A  
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 S R R R V R P G P R A P R T \* R P G  
 P G G V S E R G L G L P G P E G H V  
 Q V A S P S A A W A S R A P N V T S  
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 GAC CTG GCG GCT GCC TGA GCG CCG GGT CCG GCT CGC CCG GCC CAA GTG GCA CCT  
 32679 32688 32697 32706 32715 32724  
 CTG GAC CGC CGA CGG ACT CGC GGC CCA GGC CGA CGG GGC CGG GTT CAC CGT GGA  
 ---  
 L D R R R T R G P G R A G R V H R G  
 W T A D G L A A Q A E R A G F T V D  
 G P P T D S R P R P S G P G S P W T  
 ---  
 F P \* A \* R R V A R D A A G A A S G  
 S R D L E G A S R A T Q Q E Q Q A V  
 R V T L S V Q P G R P R S S R S R \*  
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 R T V K L T C G P R G L L L L L R Y  
 E R S S S P A D R A V C C S C C A T  
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 W P R S C P Q G A P P G T P S S S R  
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 32787 32796 32805 32814 32823 32832  
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 H G R E H G W P A G G S P V G L L L R  
 T A G S T A G R R A V R S G C C C G

G P G P R G A A G A G R R S V G R V  
 G Q G Q G V P Q A R A E D R V V E V  
 V R A R A S R S R G R R T S S \* R S

CTG GGA CCG GGA CCG GCT GGC CGA CGC GGG CGC GGA GCA GCT GCT GAT GGA GCT  
 32841 32850 32859 32868 32877 32886  
 GAC CCT GGC CCT GGC CGA CCG GCT GCG CCC GCG CCT CGT CGA CGA CTA CCT CGA

D P G P G R P A A P A P R R R L P R  
 T L A L A D R L R P R L V D D Y L D  
 P W P W P T G C A R A S S T T T S T

P R R R G L G R R P G P R A T R G P  
 P D E G A L A A D L A R G L R E V Q  
 R T K A P W P R T S P G A S G N \* R

GGC CCA GAA GCG GCC GGT TCC GGC GCA GCT CCC GGG CCG GCT CGG CAA GAT GGA  
 32895 32904 32913 32922 32931 32940  
 CCG GGT CTT CGC CGG CCA AGG CCG CGT CGA GGG CCC GGC CGA GCC GTT CTA CCT

P G L R R P R P R R G P G R A V L P  
 R V F A G Q G R V E G P A E P F Y L  
 G S S P A K A A S R A R P S R S T W

C G A S R W C A A R A P S A P S P R  
 V D Q Q G G A L R A L R L L R L P V  
 S M R S V A L L G R S G S F G S L S

CCT GTA GGA CGA CTG GCG GTC GTT CGG CGC GCT CGG CCT CTT CGG CCT CTC CCT  
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G H P A D R Q Q A A R A G E A G E G  
 D I L L T A S K P R E P E K P E R D  
 T S C \* P P A S R A S R R S R R G T

S I V W G G G L G V M H T S G H I W  
 R Y S G A G A W D W W T H A A T S G  
 A I H G L G R G T G G H T H Q R P D

GCG CTA TAC TGG GTC GGG GGC GGG TCA GGG TGG TAC ACA CAC GAC GGC ACC TAG  
 33003 33012 33021 33030 33039 33048  
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R D M T Q P P P S P T M C V L P W I  
 A I \* P S P R P V P P C V C C R G S  
 R Y D P A P A Q S H H V C A A V D P

R H A E M S P T \* P R Q Q T S S E I  
 G T R R W R R H R R G S S H P R S S  
 V Q A G G D V T D V A A A T H V V R

GTG GAC ACG CGG AGG TAG CTG CCA CAG ATG CCG GCG ACG ACA CAC CTG CTG AGC

X12

33057 33066 33075 33084 33093 33102  
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 H L C A S I D G V S Y G R C C V D D S  
 T C A P P S T V S T A R A V W T T R  
 P V R L H R R C L R P L L C G R L R D  
  
 Y W L S S Y S D S A S G T K L S L A  
 T G C R A T R I R P P A P R \* A \* R  
 H V V V L Q V F G L R L R D E L E V  
 TAC ATG GTG TTG CTC GAC ATG CTT AGG CTC CGC CTC GGC CAG AAG TTC GAG TTG  
 33111 33120 33129 33138 33147 33156  
 ATG TAC CAC AAC GAG CTG TAC GAA TCC GAG GCG GAG CCG GTC TTC AAG CTC AAC  
 M Y H N E L Y E S E A E P V F K L N  
 C T T T S C T N P R R S R S S S S T  
 V P Q R A V R I R G G A G L Q A Q R  
  
 S A T P Q A G L E R \* A C S L G S S  
 R R Q R S R A W S G S R V P C D R H  
 G V S D A A R G V G A V C L V I G I  
 CGG CTG CGA CAG CCG ACG CGC GGG TTG AGG GCG ATG CGT GTC CTG TTA GGG CTA  
 33165 33174 33183 33192 33201 33210  
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 A D A V G C A P N S R Y A Q D N P D  
 P T L S A A R P T P A T H R T I P M  
 R R C R L R A Q L P L R T G Q S R \*  
  
 T L P S V S A N L L G L M R R V R S  
 P \* L A S R P T \* C G W C A A S G A  
 L D S P Q G L R E V A G V H P P G P  
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HBC

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Y A A Q A R P G R R I L S H R A Q G A
M R R R L D L A A G F F T V P K V L

      E Q V L G G G A E V R A V A V L D P
      K R S S G V V P R S G R L R L S T Q
      R G P R A W W R G R G A C G C R P R
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L P G R A H P R P R P A Q P Q R G L
F L D E P T T G L D P R N R N E V W

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      F I T R E I T S C P V V T S S V V C
      S S P G N S P R A P C W R A A * W A
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Y L E E A D R L A D Q I S V I D A G

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      G R P R R P C G R S G S T G P P R R
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 G R S R V A P R S A S A R P G R C P  
 E E A A S Q Q D A P A P V L A G A L  
 R R P Q P S S T P Q R Q C S P G P L  
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 L L G C G L L V G W R W H E G P G K  
 S S A A D C W S A G A G T R A P A R  
 A P P A R A A A A T A S S A \* R P R  
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 A S A A S P S S S H R \* E S M Q T  
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 A L A A L G L L L L W R Y S L I W V  
 R W R R S G C C C C G A T R S S G S

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 P I \* R P S S S G G S A A P A A Y T  
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 T R A L P A S G F R I S A S S H P V  
 R G R W P L R G S A S A P R A T R C  
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R L S S R I A A S A Y M V A S V W A  
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P G V M I \* W L H L C V T H S P R \* T R  
P E \* \* S D G C T C V H R A A E P G  
R S D D L (M) A A L A Y I T A L N Q A

BZ

Q V V L H R A V V A D A D E A L V H  
S C S S I A R S S R T Q T K P S S T  
A A R R S P A R R G R R R R R P R

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L H D E M A R D D R V C V F G E D V

P D A E G L D G L A Q V L A E A V S  
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A S R G \* G P R W P G A R A S R R R

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V R R R C G G T P A P R \* W G P W R

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 I Q H E L L D G V L R V L E R Q H G  
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 P P C T S T G T V \* R T G P E P E R  
 R H A P P P G P \* R D P A P S R N A  
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 P M L V T R G A V A E S A \* P R S S  
 R C \* S P G A R W R R P R R R G A A  
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 P V T S S T E P S S P G T G S P D A  
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 A C R P G R R G G H G G R G V D R G  
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 G G S A H D L P G G L G D D P G V G  
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S	F	V	P	R	S	T	T	M	S	S	A	L	R	I	H	A	P
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E	K	T	G	R	L	V	V	I	D	D	A	N	R	M	C	G	F
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P	P	S	T	S	A	V	A	A	S	C	N	S	R	V	A	R	G
R	R	R	P	A	P	W	R	P	P	A	T	R	D	S	P	G	A
AGC	CGC	CGC	TCC	ACG	ACC	GGT	GGC	GCC	TCG	TCA	AGC	TAG	ACT	GCC	GGG	CCG	
37755				37764				37773		37782		37791				37800	
TCG	GCG	GCG	AGG	TGC	TGG	CCA	CCG	CGG	CGG	AGC	AGT	TCG	ATC	TGA	CGG	CCC	GGC
S	A	A	R	C	W	P	P	R	R	S	S	S	I	*	R	P	G
R	R	R	G	A	G	H	R	G	G	A	V	R	S	D	G	P	A
G	G	E	V	L	A	T	A	A	E	Q	F	D	L	T	A	R	P
P	P	H	G	P	R	V	A	R	D	D	G	V	R	E	H	E	V
R	R	T	V	R	G	S	P	A	T	M	G	*	A	S	T	S	S
G	A	P	S	G	A	P	R	R	P	*	G	R	R	A	R	A	R
GGG	CCG	CCC	ACT	GGG	CCG	GCC	TGC	CGC	GCC	AGT	AGG	GGA	TGC	GCG	AGC	ACG	AGC
37809				37818				37827		37836		37845				37854	
CCC	GGC	GGG	TGA	CCC	GGC	CGG	ACG	GGC	CGG	TCA	TCC	CCT	ACG	CGC	TCG	TGC	TCG
P	G	G	*	P	G	R	T	A	R	S	S	P	T	R	S	C	S
P	A	G	D	P	A	G	R	R	R	G	H	P	L	R	A	R	A
R	R	V	T	R	P	D	G	A	V	I	P	Y	A	L	V	L	D
L	R	Q	Q	R	V	R	G	L	Q	G	V	R	D	T	G	D	Q
W	A	N	S	G	S	A	A	W	S	V	S	A	I	R	A	T	R
G	P	T	A	A	P	R	P	G	A	S	R	R	S	G	H	R	G
TGG	TCC	GCA	ACG	ACG	GCC	TGC	GCC	GGG	TCG	ACT	GGC	TGC	GCT	AGG	CAC	GGC	AGG
37863				37872				37881		37890		37899				37908	
ACC	AGG	CGT	TGC	TGC	CGG	ACG	CGG	CCC	AGC	TGA	CCG	ACG	CGA	TCC	GTG	CCG	TCC
T	R	R	C	C	R	T	R	P	S	*	P	T	R	S	V	P	S
P	G	V	A	A	G	R	G	P	A	D	R	R	D	P	C	R	P
Q	A	L	L	P	D	A	A	Q	L	T	D	A	I	R	A	V	L
L	S	A	A	R	R	P	G	S	E	F	P	L	S	S	S	N	R
F	H	R	P	V	V	L	G	Q	S	S	R	S	L	L	H	I	G
S	T	V	R	C	S	S	A	R	V	R	V	P	S	F	I	F	E
ACT	TCA	CTG	CGC	CGT	GCT	GCT	CCG	GGA	CTG	AGC	TTG	CCC	TCT	CTT	CTA	CTT	AAG
37917				37926				37935		37944		37953				37962	
TGA	AGT	GAC	GCG	GCA	CGA	CGA	GGC	CCT	GAC	TCG	AAC	GGG	AGA	GAA	GAT	GAA	TTC



S D A R R G P D S N G R E D E F  
E V T R H D E A L T R T G R E K (M) E N S P GT  
K \* R G T T R R P \* L E R E R R \* I P

A D A A P R S S \* R R S W R A T S A  
L T P P D H R D G D P G V L Q A P  
S R R G R T T V I V T P V L S S H Q

GCT CGC AGC CGG CGC CCA GCA CTG CTA GTG GCA GCC CTG GTT GCT CGA CAC GAC  
37971 37980 37989 37998 38007 38016

CGA GCG TCG GCC GCG GGT CGT GAC GAT CAC CGT CGG GAC CAA CGA GCT GTG CTG

R A S A A G R D D H R R D Q R A V L  
E R R P R V T I T V G T N E L C A W  
S V G R G S \* R S P S G P T S C A G

P G T D R S R A P C R C W R S R G P  
Q V P T E A G Q P V A V G G A E V Q  
S S R H R P E K S S L S V V P K S R

CGA CCT GGC CAC AGA GCC GAG GAA CGA CCT GTC GCT GTG GTG GCC GAA GCT GGA  
38025 38034 38043 38052 38061 38070

GCT GGA CCG GTG TCT CGG CTC CTT GCT GGA CAG CGA CAC CAC CGG CTT CGA CCT

A G P V S R L L A G Q R H H R L R P  
L D R C L G S L L D S D T T G F D L  
W T G V S A P C W T A T P P A S T W

P R S R R C R S P P R C H R A H A R  
L D A V D V V V R R V A T D L M H A  
S T Q \* T S L S E A S P L T S C T R

CCT CCA GAC GAT GCA GCT GTT GCT GAG CCG CCT GCC GTC ACA GCT CGT ACA CGC  
38079 38088 38097 38106 38115 38124

GGA GGT CTG CTA CGT CGA CAA CGA CTC GGC GGA CCG CAG TGT CGA GCA TGT GCG

G G L L R R Q R L G G R Q C R A C A  
E V C Y V D N D S A D G S V E H V R  
R S A T S T T T R R T A V S S M C A

S R A R P S S \* G C R G C D P S R R  
R G P G R H R D D A V V A I Q A E G  
A V Q G A T V I M R L S R L R P K A

GCG CTG GAC CGG GCG CCA CTG CTA GTA GGC GTT GCT GGC GTT AGA CCC GAA GCG  
38133 38142 38151 38160 38169 38178

CGC GAC CTG GCC CGC GGT GAC GAT CAT CCG CAA CGA CCG CAA TCT GGG CTT CGC

R D L A R G D D H P Q R P Q S G L R  
A T W P A V T I I R N D R N L G F A  
R P G P R \* R S S A T T A I W A S P

P S C R R C G G R G P T R R P S R T  
P R V V D A D A A G Q L G A R V V H  
P A F L T P M R R A R S D P A S \* T

GCC CCG CTT GTT GCA GCC GTA GGC GGC GCG GGA CCT CAG GCC GCG CCT GAT GCA

38187 38196 38205 38214 38223 38232  
 CGG GGC GAA CAA CGT CGG CAT CCG CCG CGC CCT GGA GTC CGG CGC GGA CTA CGT  
 R G A E N R R H P P R P G V R R G L R  
 G A N V G I R A P L E S G A D Y V  
 G R T T S A S A A P W S P A R T T C  
 G R \* G R C R S A A R G P A R V \* R  
 E E D V G V G P R R G V Q H A S E G  
 N R T L G S V Q V G G S R T R P S V  
 CAA GGA GCA GTT GGG GCT GTG GAC CTG CGG CGG GCT GGA CCA CGC GCC TGA GTG  
 38241 38250 38259 38268 38277 38286  
 GTT CCT CGT CAA CCC CGA CAC CTG GAC GCC GCC CGA CCT GGT GCG CGG ACT CAC  
 V P R Q P R H L D A A R P G A R T H  
 F L V N P D T W T P P D L V R G L T  
 S S S T P T P G R R P T W C A D S P  
 V P R P I A P T R C R R G A A T G S  
 F Q G L F P R L V A D D A R Q L V A  
 S S A S S H G S Y P M T P G S C Y R  
 GCT TGA CCG GCT CCT TAC CGG CCT CAT GCC GTA GCA GCC GGG CGA CGT CAT GGC  
 38295 38304 38313 38322 38331 38340  
 CGA ACT GGC CGA GGA ATG GCC GGA GTA CGG CAT CGT CGG CCC GCT GCA GTA CCG  
 R T G R G M A G V R H R R P A A V P  
 E L A E E W P E Y G I V R G L Q Y R  
 N W P R N G R S T A S S A R C S T A  
 R G R S W P A R R T \* R T S A C P G  
 V V G V G R R E V L E V L P R V R G  
 \* S G S E V A S S S N L S H V C V A  
 GAT GCT GGG GCT GAG GTG CCG CGA GCT GCT CAA GTT GCT CAC CTG CGT GTG CCG  
 38349 38358 38367 38376 38385 38394  
 CTA CGA CCC CGA CTC CAC GGC GCT CGA CGA GTT CAA CGA GTG GAC GCA CAC GGC  
 L R P R L H G A R R V Q R V D A H G  
 Y D P D S T A L D E F N E W T H T A  
 T T P T P R R S T S S T S G R T R P  
 T A P R A A R R R R R S R G D R G  
 Q P Q A L L V G E G A V P D G M G G  
 R H S P S C C A K A P S P I A W G E  
 GGA CAC CGA CCC GCT CGT CGT GCG GAA GCG GCC GCT GCC CTA GCG GGT AGG GAG  
 38403 38412 38421 38430 38439 38448  
 CCT GTG GCT GGG CGA GCA GCA CGC CTT CGC CGG CGA CGG GAT CGC CCA TCC CTC  
 P V A G R A A R L R R R R D R P S L  
 L W L G E Q H A F A G D G I A H P S  
 C G W A S S T P S P A T G S P I P P  
 P P A A S P A P G V S A P A R R H A  
 R R P Q R L P P G W P R Q L V G I H

F A P S G F P R A G R V S S C A \* T  
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 38457 38466 38475 38484 38493 38502  
 CCC GGC GGG GCT GCC GAA GGG GCG GGC CCC ACG GAC GCT GGA GCA CGC CTA TGT  
 P G G A A E G A G A P T D A G A R L C  
 P A G L P K G R A P P R T L E H A Y V  
 R R G C R R G G P H G R W S T P M C  
 P N P A R R G S R S A A R S R A A R  
 L T R R E E G P G R H Q A L D P Q E  
 C P E A S K A R V A I S R S I P S S  
 CGT CCC AAG CCG CGA GAA GCG GGC CTG GCG CTA CGA CGC GCT CTA GCC CGA CGA  
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 R P A A C R S R P S R G T G G P G S  
 V L H Q V G V V L L G V Q A A P G A  
 S S T S C V \* \* S S V S R H R R A R  
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 R R G A A H L L R G D R P V P P G P  
 D E V L H T Y E E T D L C A R R A R  
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 P P S A P P G A G P G P C G A G P R  
 P R A P P H G Q V Q V Q A D L V P A  
 Q A P Q R T A R C R S R P M W C R P  
 GAC CCG CCC GAC CGC CCA CCG GGA CGT GGA CCT GGA CCC GTA GGT CGT GGC CCC  
 38619 38628 38637 38646 38655 38664  
 CTG GCG GGG CTG GCG GGT GGC CCT GCA CCT GGA CCT GGG CAT CCA GCA CCG GGG  
 L G G L A G G P A P G P G H P A P G  
 W A G W R V A L H L D L G I Q H R G  
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 R R P S R P W C T C G P G C A A C G  
 A A P R G H G A R V A P D V H P A V  
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 GCC GCC GCC CCG CTG GCA CCG GTC GTG CAT GTC GGC CCA GGT GTA CGC CGC GTT  
 38673 38682 38691 38700 38709 38718  
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 R R R G D R G Q H V Q P G P H A A Q  
 G G G A T V A S T Y S R V H M R R N  
 A A G R P W P A R T A G S T C G A T

S S S G R \* R R R S A G P S P R G A  
 A V V V E R K V S T S Q G A F A A R  
 R \* \* \*  
 GGC GAT GAT GAT GGA GAA GTG GCT GCA GCT GAC CGT GGG CCG CTT CCG GCG GGC  
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 CCG CTA CTA CTA CCT CTT CAC CGA CGT CGA CTG GCA CCC GGC GAA GGC CGC CCG  
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 R Y Y Y L F T D V D W H P A K A A R  
 A T T T S S P T S T G T R R R P P G  
 R R A S A R P P G \* P G C A R R R G R  
 E G P A P E H R V E H A A D D A A  
 S A P R Q S T A S R M P R L T T P R  
 CGA GCG GCC CGC GAC CGA GCA CCG CCT GGA GTA CCC GGC GTC GCA GCA GCC GGC  
 38781 38790 38799 38808 38817 38826  
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 A R R A L A R G G P H G P Q R R R P  
 L A G R W L V A D L M G R S V V G R  
 S P G A G S W R T S W A A A S S A A  
 G P R S R L A P S W R P A A S A R R  
 D R G R G S R P L G D L R Q A P E G  
 T G A A V P A R S V M S A S R Q S A  
 GCA GGC CCG GCG CTG GCC TCG CGC CCT CTG GTA GCT CCG CGA GCG GAC CGA GCG  
 38835 38844 38853 38862 38871 38880  
 CGT CCC GGC CGC GAC CGG AGC GCG GGA GAC CAT CGA GGC GCT CCG CTG GCT CGC  
 R P G R D R S A G D H R G A A L A R A  
 V P A A T G A R E T I E A L R W L A  
 S R P R P E R G R P S R R C A G S P  
 G P A S W A T G G G P G G R A A R E  
 V P H R G H P G A A P V V A R Q A S  
 S R T G V M R D R R R S W R A S R A  
 GCT GGC CCA CGG CTG GTA CGC CAG GGC GGC GGC CCT GGT GGC GCG CGA CGC GCG  
 38889 38898 38907 38916 38925 38934  
 CGA CCG GGT GCC GAC CAT GCG GTC CCG CCG GGA CCA CCG CGC GCT GCG CGC  
 R P G A D H A V P P P G P P R A A R  
 D R V P T M R S R R R D H R A L R A  
 T G C R P C G P A A G T T A R C A L  
 R R A R R P S P P T R I L G N F T A  
 A A P A A R R L P R G S S A T S P P  
 R P P R P A A F P A D Q H P R Q L H  
 AGC GCC GCC CGC GCC GCG CCG CTT CCC CCG CAG GAC TAC TCC GGC AAC TTC CAC  
 38943 38952 38961 38970 38979 38988  
 TCG CGG CGG GCG CGC GCG GGC GAA GGG GGC GTC CTG ATG AGG CCG TTG AAG GTG

S R R A R R R A G E G V G L \* (M) \* G R P L \* K R V  
 R G G R G A A K G A S L \* G T 4  
 A A G A A R R R G R P D E A V E G G

S T L M G S R T G P L S A Q I E T G  
 A P \* C G A A P G P S R H R S R R V  
 R Q D V D R Q P D R P A I G P D G Y

CGC GAC CAG TTG TAG GGC GAC GCC CAG GGC CCC TCG CTA CGG ACC TAG AGG CAT  
 38997 39006 39015 39024 39033 39042

GCG CTG GTC AAC ATC CCG CTG CGG GTC CCG GGG AGC GAT GCC TGG ATC TCC GTA

A L V N I P L R V P G S D A W I S V  
 R W S T S R C G S R G A M P G S P Y  
 A G Q H P A A G P G E R C L D L R T

G C P Y P P M W H T T A L R I S P S  
 G V P I R R C G T P R R R W G S P R A  
 G W L S V A A D L P D D G V Q H V P

GGG GGT GTC CCT ATG CCG CCG TAG GTC ACC CAG CAG CGG TTG GAC TAC CTG CCC  
 39051 39060 39069 39078 39087 39096

CCC CCA CAG GGA TAC GGC GGC ATC CAG TGG GTC GTC GCC AAC CTG ATG GAC GGG

P P Q G Y G G I Q W V V A N L M D G  
 P H R D T A A S S G S S P T \* W T G  
 P T G I R R H P V G R R Q P D G R A

S S S P W S T K R S P A G P L G A P  
 A P V R G R P R G A P H G P C G P R  
 Q Q F E A V L D E Q Q T G R A A R G

GAC GAC CTT GAG CCG GTG CTC CAG AAG GAC GAC CCA CGG GGC CCG TCG GGC CGG  
 39105 39114 39123 39132 39141 39150

CTG CTG GAA CTC GGC CAC GAG GTC TTC CTG CTG GGT GCC CCG GGC AGC CCG GCC

L L E L G H E V F L L G A P G A S P A  
 C W N S A T R S S C W V P R G A A R P  
 A G T R P R G L P A G C P G Q P G R

R G P S V T T G A P S G S S I S R H  
 V G P A S R R A P P R A P P S R A T  
 S A R P Q G D H R R A L R L L D L P

CCT GCG GGC CCC GAC TGG CAG CAC GGC CGC CCG CTC GGC CTC CTC TAG CTC GCC  
 39159 39168 39177 39186 39195 39204

GGA CGC CCG GGG CTG ACC GTC GTG CCG GCG GGC GAG CCG GAG GAG ATC GAG CCG

G R P G L T V V P A G E P E E I E R  
 D A R G \* P S C R R A S R R S S G  
 T P G A D R R A G G R A G G D R A V

S R V A S T S T T W S W L P P T M P  
 A A S R P R R R P G R G C R R H \* R  
 P Q P G R V D V H D V V V A A T D D

ACC GAC GCC TGG CGC CTG CAG CTG CAC CAG GTG CTG GTG TCG CCG CCA CAG TAG

39213				39222				39231				39240				39249				39258			
TGG	CTG	CGG	ACC	GCG	GAC	GTC	GAC	GTG	GTC	CAC	GAC	CAC	AGC	GGC	GGT	GTC	ATC						
W	L	R	T	A	D	V	D	V	V	H	D	H	S	G	G	V	I						
G	C	G	P	R	T	S	T	W	S	T	T	T	A	A	V	S	S						
A	A	D	R	G	R	R	R	G	P	R	P	Q	R	R	C	H	R						
G A P S G G P V A K M L E C W K V V				G P R A A A P C R R * * S A G S * W																			
A R G P Q R R A G G E D A R V V E G																							
CCG	GGC	CGG	CCC	GAC	GGC	GGC	CCG	TGG	CGG	AAG	TAG	TCG	AGC	GTG	GTG	AAG	TGG						
39267				39276				39285				39294				39303				39312			
GGC	CCG	GCC	GGG	CTG	CCG	CCG	GGC	ACC	GCC	TTC	ATC	AGC	TCG	CAC	CAC	TTC	ACC						
G P A G L P P G T A F I S S H H F T																							
A R P G C R R A P P S A R T T S P																							
P G R A A A G H R L H Q L A P L H H																							
R G T L G T P Q V * L E R A C R A W																							
G A P * G R P S Y R C N G P A A R G																							
G P R D V G H A T G V T G P R L A G																							
TGG	GCC	GGC	CAG	TTG	GGG	CAC	CCG	ACA	TGG	ATG	TCA	AGG	GCC	CGC	GTC	CGC	CGG						
39321				39330				39339				39348				39357				39366			
ACC	CGG	CCG	GTC	AAC	CCC	GTG	GGC	TGT	ACC	TAC	AGT	TCC	CGG	GCG	CAG	CGC	GCC						
T R P V N P V G C T Y S S R A Q R A																							
P G R S T P W A V P T V P G R S A P																							
P A G Q P R G L Y L Q F P G A A S A P																							
Q P P P S S A G T I G I G T S G A R																							
S R P R R R R A R S G S G P R G P A																							
V A P A A V V R G H D R D R D V R R																							
GTG	ACG	CCC	CCG	CCG	CTG	CTG	CGC	GGG	CAC	TAG	GGC	TAG	GGC	CAG	CTG	GGC	CGC						
39375				39384				39393				39402				39411				39420			
CAC	TGC	GGG	GGC	GGC	GAC	GAC	GCG	CCC	GTG	ATC	CCG	ATC	CCG	GTC	GAC	CCG	GCG						
H C A G G G D D A P V I P I P V D P A																							
T A G A A T T R P * S R S R S T R R																							
L R G R R R R A R D P D P G R P G A																							
* R D A A S W T A L S S K R S K M P																							
S G T R R P G P P W P P S G A R * P																							
A V P G G R V L H G L L V E Q E E H																							
GCG	ATG	GCC	AGG	CGG	CGC	CTG	GTC	CAC	CGG	TTC	CTC	CTG	AAG	GAC	GAG	AAG	TAC						
39429				39438				39447				39456				39465				39474			
CGC	TAC	CGG	TCC	GCC	GCG	GAC	CAG	GTG	GCC	AAG	GAG	GAC	TTC	CTG	CTC	TTC	ATG						
R Y R S A A D Q V A K E D F L L F M																							
A T G P P R T R W P R R T S C S S W																							
L P V R R G P G G Q G G L P A L H G																							
R T E G C L P A S S A A A N A C A Q																							
A P R A A C P P A P P P R T R A R R																							

P P D R R V L P R Q L R G R E R V G  
 CCC GCC CAG AGC GGC GTG TTC CCC CGC GAC CTC CGC CGG CGC AAG CGC GTG CGG  
 39483 39492 39501 39510 39519 39528  
 GGG CGG GTC TCG CCG CAC AAG GGG GCG CTG GAG GCG GCC GCG TTC GCG CAC GCC  
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 G R V S P H K G A L E A A A F A H A  
 G G S R R T R G R W R R P R S R T P  
 A G L A A Q G G A G G G R V R A R L  
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 P R R R T S A P G A Q S G S Y K S S  
 R G A G P A P R A R R P A P T S R R  
 A A P A Q H Q G P G G P L R L V E V  
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 C A R R L V L A G P A W E P E Y F D  
 A A G A W C W P P P G S R S T S T  
 R P A P G A G R A R L G A G V L R R  
 -----  
 I V R R Y P E V T S G I P S T P P S  
 S \* E G T R S S R R A S R H P P R R  
 L D S A P V A R G D L R D T L H A A  
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 39591 39600 39609 39618 39627 39636  
 GAG ATC ACT CGC CGG TAC GGC TCG ACC GTC GAG CCG ATC GGT GAG GTG GGC GGC  
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 E I T R R Y G S T V E P I G E V G G  
 R S L A G T A R P S S R S V R W A A  
 D H S P V R L D R R A D R \* G G R R  
 -----  
 R R S S R S A E A C A T S A M D W A  
 A A A R G A R R R V R P A P W T G P  
 L P P E V Q E G G C V R H Q G H G L  
 -----  
 CTC GCC GCC GAG CTG GAC GAG CGG AGG CGT GTG CGC CAC GAC CGG TAC AGG GTC  
 39645 39654 39663 39672 39681 39690  
 GAG CGG CGG CTC GAC CTG CTC GCC TCC GCA CAC GCG GTG CTG GCC ATG TCC CAG  
 -----  
 E R R L D L L A S A H A V L A M S Q  
 S G G S T C S P P H T R C W P C P R  
 A A A R P A R L R T R G A G H V P G  
 -----  
 T V P G H P P M Q H S G P A V T T E  
 P \* R A T P R C R T R A P H S P P R  
 R D G P R P A A D P A L R T R R H D  
 -----  
 CGC CAG TGG CCC GGC ACC CCG CCG TAG ACC ACG CTC GGC CCA CGC TGC CAC CAG  
 39699 39708 39717 39726 39735 39744  
 GCG GTC ACC GGG CCG GTG GGC GGC ATC TGG TGC GAG CCG GGT GCG ACG GTG GTC  
 -----  
 A V T G P W G G I W C E P G A T V V  
 R S P G R G A A S G A S R V R R W S  
 G H R A V G R H L V R A G C D G G L

S A A T L P V G T T P V P L P Q R A  
 R P R R S R C E R R P C P C R A V A A G P  
 G L G G H A A S G D H A C R A V A A G Q  
 ---  
 AGG CTC CGG CGG CAC TCG CCG TGA GGG CAG CAC CCG TGC CCG TTG CCG ACG GAC  
 39753 39762 39771 39780 39789 39798  
 TCC GAG GCC GCC GTG AGC GGC ACT CCC GTC GTG GGC ACG GGC AAC GGC TGC CTG  
 ---  
 S E A A V S G T P V V G T G N G C L  
 P R G P P \* A A L P S W A R G A T A A W  
 R R G R R E R H S R R G H G Q R L P G  
 ---  
 S I T G E T P S T T P Y P V S K A G  
 R S R A R P R R L R P I R C R S R A  
 G L D H G R D A F D H S V A G V E R  
 ---  
 CGG CTC TAG CAC GGG AGC CAG CCG CTT CAG CAC CCT ATG CCG TGG CTG AAG CGC  
 39807 39816 39825 39834 39843 39852  
 GCC GAG ATC GTG CCC TCG GTC GGC GAA GTC GTG GGA TAC GGC ACC GAC TTC GCG  
 ---  
 A E I V P S V G E V V G Y G T D F A  
 P R S C P R S A K S R W D T A P T S R  
 R D R A L G R R S R G I R H R L R A  
 ---  
 S S A R R V R A P S G A D S S T R R  
 R R L V G S G P L A A P M R R P G A  
 G V F C A P G Q C P Q R C G V L D P  
 ---  
 GGG CTG CTT CGT GCG GCC TGG GAC CGT CCC GAC GGC CGT AGG CTG CTC CAG GCC  
 39861 39870 39879 39888 39897 39906  
 CCC GAC GAA GCA CGC CGG ACC CTG GCA GGG CTG CCG GCA TCC GAC GAG GTC CCG  
 ---  
 P D E A R R T L A G L P A S D E V R  
 P T K H A G P W Q G C R H P T R S G  
 R R S T P D P G R A A G I R R G P A  
 ---  
 A A T R N H P W T V I A S R Y T S C  
 H P P G T T P G H S S R R V T H P A  
 T R R D P Q P A M H R D G F P I H L  
 ---  
 GCA CGC CGC CAG GCC AAC ACC CCG GTA CAC TGC TAG CGG CTT GCC ATA CAC CTC  
 39915 39924 39933 39942 39951 39960  
 CGT GCG GCG GTC CGG TTG TGG GGC CAT GTG ACG ATC GCC GAA CGG TAT GTG GAG  
 ---  
 R A A V R L W G H V T I A E R Y V E  
 V R R S G C G A M \* R S P N G M W S  
 C G G P V V G P C D D R R T V C G A  
 ---  
 Y R L S S A P A V Q F H P A S A R L  
 T G C A A P R L S R S T L P R P G S  
 L V A P Q Q G S R G P L S P G L G P  
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 GTC ATG GCG TCC GAC GAC CGG CCT CGC TGG ACC TTC ACT CCC CGG CTC CGG GCC  
 39969 39978 39987 39996 40005 40014  
 CAG TAC CCG AGG CTG CTG GCC GGA GCG ACC TGG AAG TGA GGG GCC GAG GCC CGG



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Q Y R R L L A G A T W G K \* G A E A R  
S T A G C W P E R T P G S E G P R P G  
V P Q A A G R S D L E V R G R G P E

P H V A R A E A R R \* D K D L W P R  
R T S R G P R P V D D T R T W G P A  
A P P G G P G R C T T L G Q G A L P

TCG CCC ACC TGG CGG GCC CGG AGC CGT GCA GCA GTC AGG AAC AGG TCG GTC CCC  
40023 40032 40041 40050 40059 40068  
AGC GGG TGG ACC GCC CGG GCC TCG GCA CGT CGT CAG TCC TTG TCC AGC CAG GGG

S A G W T A R A S A R R Q S L S S Q G  
A G G P P G P R H V V S P C P A R G  
R V D R P G L G T S S V L V Q P G A

P E P D A V E E A A G M F V L V Y A  
R S P T P S R K P R G W S S W C M P  
A A R P R R G R R G G G H L G A C L

GCG CGG AGC CCC AGC CGC TGG AGA AGC CGG CGG GGG TAC TTC TGG TCG TGT ATC  
40077 40086 40095 40104 40113 40122  
CGC GGC TCG GGG TCG GCG ACC TCT TCG GCC GCC CCC ATG AAG ACC AGC ACA TAG

R G S G S A T S S A A P P M K T S T \*  
A A R G R R P L R P P \* R P A H R  
R L G V G D L F G R P H E D Q H I G

R R T Q D T L N P G A Y H P A R L A  
G A R R T P S I P A R T I R L A C P  
G P A D P R H S Q P G R L A S R A P

GCG GCC GCG CAG ACC AGC CAC TCT AAC CCC GGG CGC ATT ACG CCT CGC GCG TCC  
40131 40140 40149 40158 40167 40176  
GCC CGG CGC GTC TGG TCG GTG AGA TTG GGG CCC GCG TAA TGC GGA GCG CGC AGG

A R R V W S V R L G P A \* C G A R R  
P G A S G R \* D W G P R N A E R A G  
P A R L V G E I G A R V M R S A Q G

H V V A E G S A L P V P V G A A P D  
T C W P R V R P S P S P C G P P R T  
R A G R G \* G L R P P R A G R R G P

GCG ACG TGG TGC CGG AGT GGG CTC CGC TCC CCC TGC CCG TGG GGC CGC CGG CCC  
40185 40194 40203 40212 40221 40230  
GCG TGC ACC ACG GCC TCA CCC GAG GCG AGG GGG ACG GGC ACC CCG CGC GCC GGG

A C T T A S P E A R G T G T P A A G  
R A P R P H P R R G G R A P R R P G  
V H H G L T R G E G D G H P G G R V

V A D T V L G R I R D D D D I H R H  
W R T P \* W G G S V T T T T S T G T  
G G R R D G A G P Y P R R R R H A P

AGG TGG CGC AGC CAG TGG TCG GGG GCC TAT GCC AGC AGC AGC AGC TAC ACG GCC

40239 40248 40257 40266 40275  
 TCC ACC GCG TCG GTC ACC AGC CCC CGG ATA CGG TCG TCG TCG TCG ATG TGC CGG  
 S T A S V T S P R I R S S S M C A R  
 P P R R S P A P G Y G R R R R C A G  
 H R V G H Q P P D T V V V V D V P V  
  
 P L V P G L H A G P V Y H L C G S D  
 R C C P V S T R A P C M T C A A A T  
 A A A R S R P A R R A C L A P L R Q  
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 ACG CGG TCG TGC CCT GGC TCC ACG CGC GGC CCG TGT ATC ACG TCC GTC GGC GAC  
 40293 40302 40311 40320 40329 40338  
 TGC GGC AGC ACG GGA CCG AGG TGC GCG CCG GGC ACA TAG TGC AGG CAG CCG CTG  
 ---  
 C A S T G P R C A P G T \* C A R Q P L  
 A G A A R D R G A R R A H S A G S R C  
 R Q H G T E V R A R A G H I V Q A A A A V  
  
 V T A E D L P T W I S L G R R R C R  
 W P P R T W R P G Y A S G A G A A A  
 G R H G R G A P D M H Q A R A P P L  
 ---  
 AGG TGC CAC CGG AGC AGG TCG CCC CAG GTA TAC GAC TCG GGC GCG GCC GCC GTC  
 40347 40356 40365 40374 40383 40392  
 TCC ACG GTG GCC TCG TCC AGC GGG GTC CAT ATG CTG AGC CCG CGC CGG CGG CAG  
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 S T V A S S S G V H M L S P R R R Q  
 P R W P R P A G S I C \* A R A G A S  
 H G G L V Q R G P Y A E P A P A A A  
  
 P D M Y G E D Q H W P T A A G Y N P  
 R T W T A R T R T G P R Q R A T T R  
 A P G H L G R G P A L A N G R R L E  
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 GCG CCC AGG TAC ATC GGG AGC AGG ACC ACG GTC CCG CAA CGG CGC GGC ATC AAG  
 40401 40410 40419 40428 40437 40446  
 CGC GGG TCC ATG TAG CCC TCG TCC TGG TGC CAG GGC GTT GCC GCG CCG TAG TTC  
 ---  
 R G S M \* P S S W C Q G V A A P \* F  
 A G P C S P R P G A R A L P R R S S  
 R V H V A L V L V P G R C R A V V R  
  
 P K L I A H G Y F D L E D E P I D L  
 R S \* F P T G M S T S S T R R S T W  
 A A E S H R A W L L R A R G G P H G  
 ---  
 CCG CCG AAG TCT TAC CGC ACG GGT ATC TTC AGC TCG AGC AGG AGG CCC TAC AGG  
 40455 40464 40473 40482 40491 40500  
 GGC GGC TTC AGA ATG GCG TGC CCA TAG AAG TCG AGC TCG TCC TCC GGG ATG TTC  
 ---  
 G G F R M A C P \* K S S S S S G M S  
 A A S E W R A H R S R A R P P G C P  
 R L Q N G V P I E V E L V L R D V Q  
  
 L Q A A I A R C R Q F H A S E V L E  
 C S R P S R G A G S S I R V R S W S

A A A R R D G P V A P F A C E R G A  
 TCG TCG ACG CGC CGC TAG CGG GCC GTG GCG ACC TTT ACG CGT GAG AGC TGG TCG  
 40509 40518 40527 40536 40545 40554  
 AGC AGC TGC GCG GCG ATC GCC CGG CAC CGC TGG AAA TGC GCA CTC TCG ACC AGC  
 S S C A A I A R H R W K C A L S T S  
 A A A R R S P G T A G N A H S R P A  
 Q L R G D R P A P L E M R T L D Q L  
 P V F K E P R V I Q P L R A P R D S  
 P S S N R R A C S R R Y G P R G T P  
 R P R I E G P A R D A T A P G A Q R  
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 40563 40572 40581 40590 40599 40608  
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 S G T N F S G R T I C G S R A G L S  
 R G R I S P G A R S A V A G P A C R  
 G D E F L R A H D L R \* P G R P V G  
 D Q R G A I D F Y D G T T F D A H E  
 I R A A P S T S T T A R L S T P T S  
 F G P P R R H R L L R G Y H L R R A  
 CTT AGG ACC GCC GGC CGC TAC AGC TTC ATC AGC GGG CAT CAC TTC AGC CGC ACG  
 40617 40626 40635 40644 40653 40662  
 GAA TCC TGG CGG CCG GCG ATG TCG AAG TAG TCG CCC GTA GTG AAG TCG GCG TGC  
 E S W R P A M S K \* S P V V K S R A C  
 N P G G R R C R S S R P \* S R R A  
 I L A A G D V E V V A R S E V G V L  
 S F L R D Y V G R L W E L E T D D V  
 P S C A I T S V A C G S W S R T T W  
 R L V P S R L C R A A V G A G H R G  
 AGC CTC TTG TCC GCT AGC ATC TGT GGC GCG TCG GTG AGG TCG AGG CAC AGC AGG  
 40671 40680 40689 40698 40707 40716  
 TCG GAG AAC AGG CGA TCG TAG ACA CCG CGC AGC CAC TCC AGC TCC GTG TCG TCC  
 S E N R R S \* T P R S H S S S V S S  
 R R T G D R R H R A A T P A P C R P  
 G E Q A I V D T A Q P L Q L R V V H  
 L R P L S A F G D A Q F A A R H E E  
 S G R C R H S D T P R S P Q A T S R  
 R A A A A I R I R R G P L S R P A G  
 TGC TCG GCG CCG TCG CTA CGC TTA GGC AGC CGG ACC TTC CGA CGC GCC ACG AGG  
 40725 40734 40743 40752 40761 40770  
 ACG AGC CGC GGC AGC GAT GCG AAT CCG TCG GCC TGG AAG GCT GCG CGG TGC TCC  
 T S R G S D A N P S A W K A A R C S  
 R A A A A M R I R R P G R L R G A P  
 E P R Q R C E S V G L E G C A V L L

D I V T E V A G M R R S R E D P <sup>①</sup> Q  
 R S \* L K W P G W V A A G K T L C K  
 R R D C N G R G G Y P P E K R \* A N

AGC AGC TAG TGT CAA AGG TGC CGG GGG TAT GCC GCC GAG GAA AGC AGT CCG TAA  
 40779 40788 40797 40806 40815 40824  
 TCG TCG ATC ACA GTT TCC ACG GCC CCC ATA CGG CGG CTC CTT TCG TCA GGC ATT

S S I T V S T A P I R R L L S S G I  
 R R S Q F P R P Y G A S F R Q A F  
 V D H S F H G P H T A A P F V R H L

P S R Y T G G R F I A D A K A P S Y  
 L H V I R E E G S Y P M P K L R L I  
 S T F S V N R G P I H C R S \* G S F

ACT CCA CTT GCT ATG CAA GGA GGG GCC TTA TAC CGT AGC CGA AAT CGG CCT CTT  
 40833 40842 40851 40860 40869 40878  
 TGA GGT GAA CGA TAC GTT CCT CCC CGG AAT ATG GCA TCG GCT TTA GCC GGA GAA

\* G E R Y V P P R N M A S A L A G E  
 E V N D T F L P G I W H R L \* P E N  
 R \* T I R S S P E Y G I G F S S R R I

H I S \* V R A P L P S D M A T P R R  
 T F Q S S E Q R Y R H I W P R R A A  
 L S N V L S K G T A T F G H G D P P

ATC ACT TAA CTG ATC TGA GAA CGG CCA TCG CCA CTT AGG TAC CGG CAG CCC GCC  
 40887 40896 40905 40914 40923 40932  
 TAG TGA ATT GAC TAG ACT CTT GCC GGT AGC GGT GAA TCC ATG GCC GTC GGG CGG

\* \* I D \* T L A G S G E S M A V G R  
 S E N L T R L L P V A V N P P S G G  
 V N \* L D S C R \* R \* I H G R R A A

E W Q H A H L V R P A V Y T F Y P L  
 S G N I R T Y Y E R R S T H L I R S  
 A G M S A R T I S E A R R I Y F V P

GCG AGG GTA ACT ACG CGC ACA TTA TGA GAG CCG CGC TGC ATA CAT TTT ATG CCC  
 40941 40950 40959 40968 40977 40986  
 CGC TCC CAT TGA TGC GCG TGT AAT ACT CTC GGC GCG ACG TAT GTA AAA TAC GGG

R S H \* C A C N T L G A T Y V K Y G  
 A P I D A R V I L S A R R M \* N T G  
 L P L M R V \* Y S R R D V C K I R E

P N S H S S V T R N R Q I D S A D D  
 R T A I V P C L A I A N S T P P T M  
 A P Q \* S Q V C H S Q T P H R L R \*

TCG CCC AAC GAT ACT GAC CTG TGT CAC GCT AAC GCA ACC TAC AGC CTC CGC AGT  
 40995 41004 41013 41022 41031 41040  
 AGC GGG TTG CTA TGA CTG GAC ACA GTG CGA TTG CGT TGG ATG TCG GAG GCG TCA

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S G L L \* L D T V R L R W M S E A S  
A G C Y D W T Q C D C V G C R R R H  
R V A (M) T G H S A I A L D V G G V I P/

V V V L R E F Q S P K L P G E V K R  
\* \* S S G K E S S A Q S \* P V K S R A  
R S R R A K R V P K A E P S R R G Q

AGA TGA TGC TGC TCG GAA AGC TTG ACC GAA CCG AAG TCC CCT GGA AGC TGG AAC  
41049 41058 41067 41076 41085 41094

TCT ACT ACG ACG AGC CTT TCG AAC TGG CTT GGC TTC AGG GGA CCT TCG ACC TTG

S L T T R S L S N W L G F R G P S T L  
L L R R A F R T G L A S G D L R P C  
Y Y D E P F F E L A W L Q G T F D L A

D G S I R T N G E A I E D L V G L T  
T V A S G L T V R R S K M S S V S R  
P \* R Q D S H \* G G R N \* R P C R A

GCC AGT GGC GAC TAG GCT CAC AAT GGG AGG CGC TAA AGT AGC TCC TGT GGC TCG  
41103 41112 41121 41130 41139 41148

CGG TCA CCG CTG ATC CGA GTG TTA CCC TCC GCG ATT TCA TCG AGG ACA CCG AGC

R S P L I R V L P S A I S S R T P S  
G H R \* S E C Y P P R F H R G H R A  
V T A D P S V T L R D F I E D T E R

E I Q V P F R R R L S R A N E R R C  
K \* R S P F V G A S R G P M R E E A  
N R D P R S F A P P A V P C E R K P

CAA AGA TAG ACC TGC CCT TTT GCG GCC GCC TCG CTG GCC CGT AAG AGA GAA GCC  
41157 41166 41175 41184 41193 41202

GTT TCT ATC TGG ACG GGA AAA CGC CGG CGG AGC GAC CGG GCA TTC TCT CTT CGG

V S I W T G K R R R S D R A F S L R  
F L S G R E N A G G A T G H S L F G  
F Y L D G K T P A E R P G I L S S A

R G V L A P D P N S P G P P F Q G L  
A A S S L Q T R T R R A Q R S S A W  
L P R R S S P G P E V P R A P V P G

GTC GCC GGC TGC TCT CGA CCC AGG CCC AAG CTG CCC GGA CCG CCC TTG ACC GGG  
41211 41220 41229 41238 41247 41256

CAG CGG CCG ACG AGA GCT GGG TCC GGG TTC GAC GGG CCT GGC GGG AAC TGG CCC

Q R P T R A G S G F D G P G G N W P  
S G R R E L G P G S T G L A G T G P  
A A D E S W V R V R R A W R E L A Q

L N R T R N R R D R G E G A F H R R  
S I G P E I A A T V A R A R S I G V  
P S E Q N S Q P P \* P G R R G R F A S

TCC TCT AAG GAC CAA GCT AAC GCC GCC AGT GCC GGG AGC GGG CGC TTT ACG GCT

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41265 41274 41283 41292 41301 41310  
 AGG AGA TTC CTG GTT CGA TTG CGG CGG TCA CGG CCC TCG CCC GCG AAA TGC CGA  
 R R F L V R L R R S R P S P A K C R  
 G D S W F D C G G H G P R R R N A D  
 E I P G S I A A V T A L A R E M P T  
 R H D R I L R G L A G V Y E R F P P  
 V T T A F \* G G S H A S T S A S H P  
 S P P R S D A A R T R R R V R P I P  
 GCT GCC ACC AGC GCT TAG TCG GCG GGC TCA CGC GGC TGC ATG AGC GCC TTA CCC  
 41319 41328 41337 41346 41355 41364  
 CGA CGG TGG TCG CGA ATC AGC CGC CCG AGT GCG CCG ACG TAC TCG CGG AAT GGG  
 R R W S R I S A R P S A P T Y S R N G  
 D G G R E S A A R V R R T R G M G  
 T V V A N Q P P E C A D V L A E W G  
 Q G G D Q L R H D E V A E F P D G L  
 S V A T R S V T T R S Q K S P T A L  
 A S R R G P S P P G R S S R L P R W  
 CCG ACT GGC GGC AGG ACC TCT GCC ACC AGG AGC TGA CGA AGC TTC CCC AGC GGT  
 41373 41382 41391 41400 41409 41418  
 GGC TGA CCG CCG TCC TGG AGA CGG TGG TCC TCG ACT GCT TCG AAG GGG TCG CCA  
 G \* P P S W R R W S S T A S K G S P  
 A D R R P G D G G P R L L R G R Q  
 L T A V L E T V V L D C F E G V A K  
 G I G P Q Q A D G Q G P E A P G G A  
 G S G R S S P M A R A R S P R G G P  
 A R D G A A P C R G P G A R G A G R  
 TCG GGC TAG GGG CCG ACG ACC CGT AGC GGG ACC GGG CCG AGC CGG CCG GGG GGC  
 41427 41436 41445 41454 41463 41472  
 AGC CCG ATC CCC GGC TGC TGG GCA TCG CCC TGG CCC GGC TCG GCC GGC CCC CCG  
 S P I P G C W A S P W P G S A G P P  
 A R S P A A G H R P G P A R P A P R  
 P D P R L L G I A L A R L G R P P G  
 L Q Q H H A V A D V V V H C G G T G  
 S S S T T P L R T S W S T A G A R E  
 R A A P P P C G R R G R R P V R G N  
 CGC TCG ACG ACC ACC ACC CGT TGG CGC AGC TGG TGC TGC ACC GTG GGC GGG CAA  
 41481 41490 41499 41508 41517 41526  
 GCG AGC TGC TGG TGG TGG GCA ACC GCG TCG ACC ACG ACG TGG CAC CCG CCC GTT  
 A S C W W W A T A S T T T W H P P V  
 R A A G G G Q P R R P R R G T R P F  
 E L L V V G N R V D H D V A P A R S  
 Q A A R R H E Y Q R L V A V A P W R  
 R P Q G A T N T S G S S P \* R L G G

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G P S G P P T R V A P P R S G C A V  
 ---  
 GGG ACC CGA CGG GCC GCC ACA AGC ATG ACG GCC TCC TGC CGA TGG CGT CCG GTG  
 41535 41544 41553 41562 41571 41580  
 CCC TGG GCT GCC CGG CGG TGT TCG TAC TGC CGG AGG ACG GCT ACC GCA GGC CAC  
 ---  
 P W A A R R C S Y C R R T A T A G H  
 P G L P G G V R T A G G R L P Q A T  
 L G C P A V F V L P E D G Y R R P P  
 ---  
 A D M R V E G P G V A G Q A R D T G  
 P T W G S R V R A \* R A R A T R V  
 P R G D P G \* G P R G R G A R P G Y  
 ---  
 GCC CGC AGG TAG GCC TGG AGT GGG CCC GGA TGG GCG GGG ACG CGC GCC AGG CAT  
 41589 41598 41607 41616 41625 41634  
 CGG GCG TCC ATC CGG ACC TCA CCC GGG CCT ACC GCG CCC TGC GCG CGG TCC GTA  
 ---  
 R A S I R T S P G P T A P C A R S V  
 G R P S G P H P G L P R P A R R G P Y  
 G V H P D L T R A Y R A L R A V R T  
 ---  
 H R R P V V H R P D G G E G V Q G R  
 T G G P S S T G R T A E R A S R A A  
 R A E P P R R A A P R R G R R G P R  
 ---  
 GGC ACG GAG GCC CCC TGC TGC ACG GCG CCC AGC GGA GGG AGC GGC TGG ACC GGC  
 41643 41652 41661 41670 41679 41688  
 CCG TGC CTC CGG GGG ACG ACG TGC CGC GGG TCG CCT CCC TCG CCG ACC TGG CCG  
 ---  
 P C A L R G G T T C R G S P P S P T W P  
 R A S G G R R A A G R L P R P G R  
 V P P G D D V P R V A S L A D L A A  
 ---  
 R G Q R A E T R Q S W P P G A A R P  
 D G R A R R P A S H G R R V Q Q G P  
 T A G P A G R H A T V V A S R S G P  
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 GCA GCG GGG ACC GCG CGG AGC CAC GCG ACA CTG GTG CCG CCT GGA CGA CGG GCC  
 41697 41706 41715 41724 41733 41742  
 CGT CGC CCC TGG CGC GCC TCG GTG CGC TGT GAC CAC GGC GGA CCT GCT GCC CGG  
 ---  
 R R P W R A S V R C D H G G P A A R  
 V A P G A P R C A (V) T T A D L L P G Q23  
 S P L A R L G A L \* P R R T C C P G  
 ---  
 G Y P P S R P S P N \* R I G A S P W  
 V T R R H D P R R T E D S G P Q R G  
 S R V A T I P A V P K M P D R S V A  
 ---  
 CCT GGC ATG CCG CCA CTA GCC CCG CTG CCC AAA GTA GCC TAG GGC CGA CTG CCG  
 41751 41760 41769 41778 41787 41796  
 GGA CCG TAC GGC GGT GAT CGG GGC GAC GGG TTT CAT CGG ATC CCG GCT GAC GGC  
 ---  
 G P Y G G D R G D G F H R I P A D G  
 D R T A V I G A T G F I G S R L T A  
 T V R R \* S G R R V S S D P G \* R P

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A * R Q R G A R A P R R * G P T G A
P E G S V A R A R R G G E V P R E R
L S V A S P G R A G A A K L R A N G
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41805 41814 41823 41832 41841 41850
CAG GCT CAC CGC TGA CGG CCC GCG CGC GCC GGC CGC CTT CAA CCG GGC GTT CCC
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Q A H R * R P A R A G R L Q P G V P
R L T A D G P R A P A A F N R A F P
G S P L T A R A R R P P S T G R S R
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P P R R G P R G P V P P P R C R R S
R H D A A P G R S Q R S L G V D D V
G T T P P R A A G P S A S A S M T *
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CGG CCA CCA GCC GCC GGC CCG GCG GGG CCC TGA CCG CCT CCG GCT GTA GCA GAT
41859 41868 41877 41886 41895 41904
GCC GGT GGT CGG CGG CCG GGC CGC CCC GGG ACT GGC GGA GGC CGA CAT CGT CTA
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A G G R R P G R P G T G G G R H R L
P V V G G R A A P G L A E A D I V Y
R W S A A G P P R D W R R P T S S T
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G P R R G * D P G R R V D A R G P R
E Q G G A E T R D E G F T P G V Q D
K R A A P R L G T R A S R R G S R T
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GAA GGA CCG GCG GCC GGA GTC AGG CCA GGA GCG GCT TGC AGC CGG GCT GGA CCA
41913 41922 41931 41940 41949 41958
CTT CCT GGC CGC CGG CCT CAG TCC GGT CCT CGC CGA ACG TCG GCC CGA CCT GGT
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L P G R R P Q S G P R R T S A R P G
F L A A G L S P V L A E R R P D L V
S W P P A S V R S S P N V G P T W S
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P R V G V A P R P A P P A T W L P V
L G F A S Q Q D L H Q L R Q G S R S
S A S R R S S T S T S S A S D L A P
-----
GCT CCG GCT TGC GGC TGA CGA CCA GCT CCA CGA CCT CCG CGA CAG GTC TCG CCC
41967 41976 41985 41994 42003 42012
CGA GGC CGA ACG CCG ACT GCT GGT CGA GGT GCT GGA GGC GCT GTC CAG AGC GGG
-----
R G R T P T A G R G A G A V Q S G
E A E R R L L V E V L E A L S R A G
R P N A D C W S R C W R R C P E R D
-----
G G P T R V P W S P R P P R R A R P
V A R H E Y Q G A R A P R D V R G L
C R G T N T S A L E P P A T * A G S
-----
TGT GGC GGG CCA CAA GCA TGA CCG GTC GAG CCC GCC CCG CCA GAT GCG CGG GCT
42021 42030 42039 42048 42057 42066
ACA CCG CCQ GGT GTT CGT ACT GGC CAG CTC GGG CGG GGC GGT CTA CGC GCC CGA
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T P P G V R T G Q L G G G A V L R A P E  
H R P V F V L A S S G G A V L R A P E  
T A R C S Y W P A R A G R S T R P R

R V A T G P S W G S G A R S R R A  
D F R R V P L G A R G P G V G D V P  
T S G G Y R S V L G V R G S E T \* P

CCA GCT TGG CGG CAT GGC CCT CTG GTC GGG CTG GGC CGG GCT GAG GCA GAT GCC  
42075 42084 42093 42102 42111 42120

GGT CGA ACC GCC GTA CCG GGA GAC CAG CCC GAC CCG GCC CGA CTC CGT CTA CGG

G R T A V P G E D Q P D P A R L R L R  
V E N P P Y R E T S P T R P D S V Y G  
S N R R T G R P A R P G P T P S T G

R W A G G R V R A T G A S P H R G H  
V G L E A E F A L Q A P V R I G D T  
C A L S R R S R S S H R C E S A T R

CGT GCG GTT CGA GGC GGA GCT TGC GCT CGA CAC GGC CGT GAG CCT ACG GCA GGC  
42129 42138 42147 42156 42165 42174

GCA CGC CAA GCT CCG CCT CGA ACG CGA GCT GTG CCG GCA CTC GGA TGC CGT CCG

A R A Q A P P R E T R A V P A L G C R P  
H A K L R L E R E L C R H S D A V R  
T P S S A S N A S C A G T R M P S V

R P R A T S C H R R D R G A R G A R  
G H D R P Q A I D V T G A L A G Q A  
A T T A R N L L T \* P G P W R A R R

ACG GCA CCA GCG CGC CAA CTC GTT ACA GAT GCC AGG GCC GGT CGC GCG GGA CGC  
42183 42192 42201 42210 42219 42228

TGC CGT GGT CGC GCG GTT GAG CAA TGT CTA CGG TCC CGG CCA GCG CGC CCT GCG

C R G R A V E Q C L R S R P A R P A  
A V V A R L S N V Y G P G Q R A L R  
P W S R G \* A M S T V P A S A P C A

T R H A A A S A S P P R G P R A R A  
P E T H Q R V P Q R R G G P A L G H  
P N P T S G C Q S V A A A R P S G T

GCC CAA GCC ACA CGA CCG CGT GAC CGA CTG CCG CCG GCG GGC CCC GCT CGG GCA  
42237 42246 42255 42264 42273 42282

CGG GTT CGG TGT GCT GCC GCA CTG GCT GAC GGC GGC CGC CCG GGC CGA GCC CGT

R V R C A A A L A D G G R P G R A R  
G F G V L P H W L T A A A R G E P V  
G S V C C R T G \* R R P P G A S P C

P T R R D A H P G P S H G R R R R \*  
P H E A I R M H D P V I D V D V V D  
R T N P S G C T T R S \* T W T S S T

CGC CCA CAA GCC GCT AGG CGT ACA CCA GGC CCT GAT ACA GGT GCA GCT GCT GCA

42291 42300 42309 42318 42327 42336  
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 R V F G D P H V V R D Y V H V D D V  
 G C S A I R M W S G T M S T S T T S  
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 G P E Q E R Q A A P D A A P Q G G  
 V R N R S A S R P R T P P P R S G A  
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 H P V P A R A A R P G R R R P A A R  
 T R F L L A L R G R V G G G R L P A  
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 P S R R S P R A W K A S R G A P S R  
 H H V D A R A H G S R Q A A Q Q L D  
 T T F T P E P T G V E S L P R S S I  
 GCA CCA CTT GCA GCC GAG CCC GCA CGG GTG AAG CGA CTC GCC GGA CGA CCT CTA  
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 CGT GGT GAA CGT CGG CTC GGG CGT GCC CAC TTC GCT GAG CGG CCT GCT GGA GAT  
 R G E R R L G R A H F A E R P A G D  
 V V N V G S G V P T S L S G L L E I  
 W \* T S A R A C P L R \* A A C W R S  
 T R H S R R S R R P A S P A P V T R  
 H G T H G A A G D R H A P L P S P G  
 T D P T V P P E T A T R Q S R P R D  
 GCA CAG GCC ACA CTG GCC GCC GAG GCA GCG CCA CGC GAC CCT CGC CCC TGC CAG  
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 V S G V T G G S V A V R W E R G R S  
 C P V \* P A A P S R C A G S G D G P  
 R G A P C S A P H R V P G R R V R S  
 E V P L A V P Q I D C P G A G F E V  
 K S R C P L Q S S T A R A R A S S S  
 GAA GCT GGC CGT CCC GTT GAC CGA CCT ACA GCG TGC CCG GGC GCG GCT TGA GCT  
 42507 42516 42525 42534 42543 42552  
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 F D R Q G N W L D V A R A R A E L D  
 S T G R A T G W M S H G P A P N S T  
 A P R W G G S R P H G A T S P A H A  
 P P G G D G Q G L T D P L A P L T H

Q R A A M G R V S P T R C H Q S R T  
 GAC CGC CCG GCG GTA GGG GGA CTG GCT CCC ACA GGC CGT CAC GAC CCT CGC ACA  
 42561 42570 42579 42588 42597 42606  
 CTG GCG GGC GCG CAT CCC CCT GAC CGA GGG TGT CCG GCA GTG CTG GGA GCG TGT  
 L A G R H P P D R G C P A V L G A C  
 W R A A I P L T E G V S Q C W E R V  
 G G P P S P \* P R V S G S A G S V C  
 G R R R G P G K R R S A S S P \* V R  
 E V V G A P G R G G R R A L R D S A  
 S W S A P R A G E A E V R \* V T L R  
 CGA GGT GCT GCG GCC GGC CCG GGG AAG GCG GAG CTG CCG GAT CTG CCA GTC TGC  
 42615 42624 42633 42642 42651 42660  
 GCT CCA CGA CCG CGG CCG GGC CCC TTC CCG CTC GAC GCG CTA GAC GGT CAG ACG  
 A P R R R P G P F A L D A L D G Q T  
 L H D A G R A P S A S T R \* T V R R  
 S T T P A G P L P P R A R R S D A  
 \* V T L R T L R M R P R L S A P S W  
 N S P \* V R \* V C G R V S R H R A G  
 T L R D S A D S A D A S P A I G P E  
 GCA ATC TGC CAG TCT GCG CAG TCT GCG TAG GCG CCT GCC TCG CTA CCG CCC GAG  
 42669 42678 42687 42696 42705 42714  
 CGT TAG ACG GTC AGA CCG GTC AGA CCG ATC CCG GGA CCG AGC GAT GCC GGG CTC  
 R \* T V R R V R R I R G R S D A M A G L  
 V R R S D A S D A S A D G A M P G S  
 L D G Q T R Q T H P R T E R C R A P  
 G R V W R T T F G P M L A T I L A Q  
 G E Y G G L P S A R C \* R Q S \* P R  
 V R T G V S H H L G A D V S H D P G  
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 CAC CCT CGT ACC CAC CGA GTG GTG AAG CCC GGC ATC AAC GCT GTG ATC AGG GCC  
 H P R T H R V V K P G I N A V I R A  
 T L V P T E W \* S P A S T L \* S G P  
 P S Y P P S G E A R H Q R C D Q G L  
 V P R N G A D P Q D G P L S G H R P  
 S R G I G L T P S T V L Y L G T A P  
 P G A S E W R R A P \* W T S V R P P  
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 42777 42786 42795 42804 42813 42822  
 TGG ACC GGC CGA TTC CCA GCG TCG GGC TGG TCA CCA GGT AGA GAC CCG TGG CGG  
 W T G R F P A S G W S P G R D P W R  
 G P A D S Q R R A G H Q V E T R G G  
 D R P I P S V G L V T R \* R P V A G

R	L	P	R	P	R	G	D	Q	S	G	R	Q	G	T	R	A
D	Y	L	D	H	A	D	M	K	A	P	E	A	V	P	A	A
T	S	T	T	P	P	T	W	R	A	P	L	R	A	S	H	P
CCA	GCA	TCT	CCA	GCA	CCC	GCA	GGT	AGA	ACG	GCC	CTC	GGA	GCG	ACT	GGC	CAC
	42831			42840			42849			42858			42867			42876
GGT	CGT	AGA	GGT	CGT	GGG	CGT	CCA	TCT	TGC	CGG	GAG	CCT	CGC	TGA	CCG	GTG
G	R	R	G	R	G	R	P	S	C	R	E	P	R	*	P	V
V	V	E	V	V	G	V	H	L	A	G	S	L	A	D	R	C
S	*	R	S	W	A	S	I	L	P	G	A	S	L	T	G	A
A	D	R	G	G	G	D	F	P	R	E	R	G	G	R	A	V
P	M	G	A	A	A	M	L	R	A	N	E	A	A	A	L	Q
P	C	G	P	R	R	W	*	V	P	T	R	P	R	R	S	C
GCC	CGT	AGG	GCC	GGC	GGC	GGT	AGT	TTG	CCC	GCA	AGA	GCC	GGC	GGC	GCT	CGT
	42885			42894			42903			42912			42921			42930
CGG	GCA	TCC	CGG	CCG	CCG	CCA	TCA	AAC	GGG	CGT	TCT	CGG	CCG	CCG	CGA	GCA
R	A	S	R	P	P	P	S	N	G	R	S	R	P	P	R	A
G	H	P	G	R	R	H	Q	T	G	V	L	G	R	R	E	Q
G	I	P	A	A	A	I	K	R	A	F	S	A	A	A	S	N
P	R	L	Q	G	G	A	P	R	R	G	P	R	A	G	A	P
R	V	S	N	D	E	P	L	A	D	A	Q	A	H	A	Q	A
A	S	P	T	R	R	C	P	T	P	R	P	P	T	R	R	S
CCG	CCT	GCC	TCA	ACA	GGA	GGC	CGT	CCC	GCA	GCC	GGA	CCC	GCA	CGC	GGA	CGA
	42939			42948			42957			42966			42975			42984
GGC	GGA	CGG	AGT	TGT	CCT	CCG	GCA	GGG	CGT	CGG	CCT	GGG	CGT	GCG	CCT	GCT
G	G	R	S	C	P	P	A	G	R	R	P	G	R	A	P	A
A	D	G	V	V	L	R	Q	G	V	G	L	G	V	R	L	L
R	T	E	L	S	S	G	R	A	S	A	W	A	C	A	C	W
P	G	R	A	H	R	H	R	R	R	P	H	R	G	T	G	R
R	D	E	H	T	G	T	V	A	D	H	I	D	A	L	G	A
A	T	R	T	R	A	P	S	P	T	T	S	T	P	W	D	S
GCG	CCA	GGA	GCA	CGC	ACG	GCC	ACT	GCC	GCA	GCA	CCT	ACA	GCC	GGT	CAG	GGC
	42993			43002			43011			43020			43029			43038
CGC	GGT	CCT	CGT	GCG	TGC	CGG	TGA	CGG	CGT	CGT	GGA	TGT	CGG	CCA	GTC	CCG
R	G	P	R	A	C	R	*	R	R	R	G	C	R	P	V	P
A	V	L	V	R	A	G	D	G	V	V	D					



43317 43326 43335 43344 43353 43362  
 TGG ACA GCA GCG GGT CGA GGA AGC AGG CGG CGT CGC CGG CGA GGT AGT AGC CGG  
 W T A A G R G S R R R R A R R R V S A R  
 G Q Q R V E E A G A G A G E V V A G  
 D S S G S R K Q A A S P A R \* \* P G  
 R P L Q R R R L L L G A G G T R G A  
 G H F S D A V Y S F D Q E V R V G P  
 A T S A T P S T P S T R S W G Y A R  
 CCG GCA CCT TCG ACA GCC GCT GCA TCC TCT TCA GGA CGA GGT GGG CAT GCG GGC  
 43371 43380 43389 43398 43407 43416  
 GGC CGT GGA AGC TGT CGG CGA CGT AGG AGA AGT CCT GCT CCA CCC GTA CGC CCG  
 G R G S C R R R R S P A P P V R P  
 A V E A V G D V G E V L C H P Y A R  
 P W K L S A T \* E K S C S T R T P G  
 P L R R E G H P R A R D P I G R G A  
 Q Y V G N A M L D R V T P S E E V L  
 S T S A T R W S T A C P R P N R S W  
 CGA CCA TCT GCG GCA AGC GGT ACT CCA GCG CGT GCC AGC CCC TAA GGA GCT GGT  
 43425 43434 43443 43452 43461 43470  
 GCT GGT AGA CGC CGT TCG CCA TGA GGT CGC GCA CGG TCG GGG ATT CCT CGA CCA  
 A G R R R S P \* G R A R S G I P R P  
 L V D A V R H E V A H G R G F L D Q  
 W \* T P F A M R S R T V G D S S T S  
 L G A D G G P R R T G P P A G P V P  
 S A L M A E L D A H E R R R E L F R  
 R P W C R R W T P T N G A A S W S G  
 CCG TCC GGT CGT AGC GGA GGT CCA GCC GCA CAA GGG CCG CCG CGA GGT CCT TGG  
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 GCG AGG CCA GCA TCG CCT CCA GGT CGG CGT GTT CCC GGC GGC GCT CCA GGA ACC  
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 R G Q H R L Q V G V F P A A L Q E P  
 E A S I A S R S A C S R R R S R N R  
 G P P L R F R R Q V P G R A A P D G  
 D Q H C V F G V S Y R D G R L P I V  
 T R T A S S V S A T G T G A C R S \*  
 CCA GGA CCA CCG TCT GCT TTG GCT GCG ACA TGG CCA GGG GCG CGT CGC CCT AGT  
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 S W W Q T K P T L Y R S P R S G I T  
 L V L R G P R Q H R Q H G R H A F Q  
 W Y W G D P A S I V N I G G T P S S

G T G A T T R P A S S T S A G Q P R V  
 ---  
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 43587 43596 43605 43614 43623 43632  
 CCC AGT ACC AGC CGT CCG GGG CGC TGA TGA CGT TGA TGC CCC CTG TGG GCG AAC  
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 P S T S R P G R \* \* R \* C P L W A N  
 P V P A V R G A D D V D A P P C G R T  
 Q Y Q P S G A L M T L M P P V G E L  
 ---  
 A A A L R G A L L G L D R R Q P L D  
 P L L S G G Q W Y G W I A V N R F I  
 P C C R A A R G T A G S R S T A S S  
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 43641 43650 43659 43668 43677 43686  
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 W A A A S R P A S S P R S R R C G R  
 G Q Q R A A L P V S A P D R D V A E D  
 G S S E P P C Q \* P Q I A T L R K I  
 ---  
 R A P P P E E P A Q L H R R G P G L  
 E H P R R N K L H K S I V G A R G S  
 R T R A A T R \* T S P S S A P G A R  
 ---  
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 TCT CGT GCG GGC GGC GGT TCT TCA GGT GCT TGG AGA TGA CGC CGG CCC GGC CCG  
 ---  
 S R A G G G S S G A W R \* R R P G P  
 L V R A A V L Q V L G D D A G P A R  
 S C G R R F F R C L E M T P A R P E  
 ---  
 R R H R L R V G R Q G A \* R H R P G  
 A D I V Y D F E E S V L E G T D P D  
 P T S S T T S S R A S W S V P T P T  
 ---  
 TCC GCA GCT ACT GCA TCA GCT TGA GGA GCG ACT GGT CGA GTG GCC ACA GCC CCA  
 43749 43758 43767 43776 43785 43794  
 AGG CGT CGA TGA CGT AGT CGA ACT CCT CGC TGA CCA GCT CAC CGG TGT CGG GGT  
 ---  
 R R R \* R S R T P R \* P A H R C R G  
 G V D D V V E L L A D Q L T G V G V  
 A S M T \* S N S S L T S S P V S G S  
 ---  
 A V G G W G R P R R R V A R A Q G H  
 L W E A G A A R D G D F L V R K V T  
 W G S R G L R A T A T S C C A S S R  
 ---  
 GGT CGG TGA GGC GGG GTC GGC GCG CCA GCG GCA GCT TGT CGT GCG CGA ACT GGC  
 43803 43812 43821 43830 43839 43848  
 CCA GCC ACT CCG CCC CAG CCG CGC GGT CGC CGT CGA ACA GCA CGC GCT TGA CCG  
 ---  
 P A T P P Q P R G R R R T A R A \* P  
 Q P L R P S R A V A V E Q H A L D R  
 S H S A P A A R S P S N S T R L T V

R G R H R R R G A Q G R E E P A R P  
V G E T V D A G Q K V A N K L L V H  
S A R P S T P A R S S R T R \* S C T  
---  
ACT GCG GGA GCC ACT GCA GCC GCG GGA CGA ACT GGC GCA AGA AGT CCT CGT GCA  
43857 43866 43875 43884 43893 43902  
TGA CGC CCT CGG TGA CGT CGG CGC CCT GCT TGA CCG CGT TCT TCA GGA GCA CGT  
---  
\* R A P R \* R R R P A \* P R S S G A R  
D A L G D V G A L L D R V L Q E H V  
T P S V T S A P C L T A F F R S T W  
---  
R L R R P R G A L L P R R S R L D E  
D F D D R D V Q W S R V D P G F I K  
T S T T A T S R G P A S T P V S S R  
---  
CCA GCT TCA GCA GCG CCA GCT GGA CGG TCC TCG CCT GCA GCC CTG GCT TCT AGA  
43911 43920 43929 43938 43947 43956  
GGT CGA AGT CGT CGC GGT CGA CCT GCC AGG AGC GGA CGT CGG GAC CGA AGA TCT  
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G R S R R A G R P A R S G R R D R R S  
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T V \* P R E S T S S S A P T R S M M  
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P F Q \* L H G H A G L A E Q G G R R  
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 A G A V W R G G H L P G G R G G G T  
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 S A P S K K A A T G S P P S R \* R S  
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 CCT CCG GCC GCT GAA GAA CCG CCG GCA TGG GCT CCC GCC ACT GGA GAT GGA CGA  
 45963 45972 45981 45990 45999 46008  
 GGA GGC CGG CGA CTT CTT CGC CGC CGT ACC CGA GGC CGG TGA CCT CTA CCT GCT  
 ---  
 G A R R L L R R R T R G R \* P L P A  
 E A G D F F A A V P E G G D L Y L L  
 R P A T S S P P Y P R A V T S T C S  
 ---  
 S R R G H S P P R A P R S S E P A S  
 L A D D M A P L V L P G R P N Q R V  
 L L T T W P Q S S S R A A L I R A C  
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 GTT CTC GCA GCA GGT ACC GAC CCT CCT GCT CGC CCG GCG CTC CTA AGA CCG CGT  
 46017 46026 46035 46044 46053 46062  
 CAA GAG CGT CGT CCA TGG CTG GGA GGA CGA GCG GGC CGC GAG GAT TCT GGC GCA  
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 Q E R R P W L G G R A G R E D S G A  
 K S V V H G W E D E R A A R I L A H  
 R A S S M A G R T S G P R G F W R T  
 ---  
 G G P V A P A R G S R \* P R A G A A  
 A A P C Q R R V A P D D H D L V Q Q  
 Q R R A S G A C P R I T M T S C R S  
 ---  
 GAC GGC GGC CCG TGA CCG CCG CGT GCC GGC CTA GCA GTA CCA GCT CGT GGA CGA  
 46071 46080 46089 46098 46107 46116  
 CTG CCG CCG GGC ACT GCC GGC GCA CCG CCG GAT CGT CAT GGT CGA GCA CCT GCT  
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 L P P G T A G A R P D R H G R A P A  
 C R R A L P A H G R I V M V E H L L  
 A A G H C R R T A G S S W S S T C C  
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 R C P A R P R R A S S R G \* R G \* G  
 G V R H G R V G H R R G V E V V E V  
 G S V T G A S A T G V V \* R L S R L  
 ---  
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 46125 46134 46143 46152 46161 46170  
 GCC CGA CAC GGT GCC CGC GGA CGC CGT GCC GAC GAC CTA CCT CAA CGA CCT CAA  
 ---



A R H G A R A G R A D A V P D T L Y P Q R P P Q  
 P D T V P A D A V P D T L Y P Q R P P Q  
 P T R C P R T P C R R P T S T T S T  
 A P \* R C R A P A C A H R S R V A R  
 Q Q D V A V P Q L A R T A V E F L E  
 R S T L P L P S S R V R P S K S C S  
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 L L V N G N G L E R T R G D F E Q L  
 C W S T A T G W S A R V A T S N S S  
 R P P P G S P R L P \* A A P R F R G  
 A R R R A Q R D F R D R R Q G S G V  
 Q A A A P R V T S A T V G S A P V S  
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 L R G G G P D G R S G H A A G R N R  
 C A A A G L T V E A V T P L A G E T D  
 A R R R A \* R S K R S R R W P E P T  
 T A S R P R A R K P Q G A R S L P G  
 Q P Q D L G H G S R S V R E A S R G  
 R H S I S A T G A E A S G S P Q A A  
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 P V A D R G R A R F G \* P A R L S G  
 L W L I E A V P A S A D P L G \* A A  
 C G \* S R P C P L R L T R S A E R P  
 E P F K V T S P L R M A P D P R I T  
 K R S N \* R A R S G \* Q P I P G F P  
 R G P I E G H E P A E N R S R A S H  
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 L P G I S P C S G A S L R D R A E W  
 F R E F H R A R E P H C G I G P N G  
 T G D L L P R \* H I \* \* V A Q A F L  
 R G M W C P V S T F E S Y Q K R S C  
 D D W G A L S A L S N V I S S A R V  
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46395 46404 46413 46422 46431 46440  
 GTC GTC CCA TCC AGC AAG GGA CGC TAG TGA ATT CAC TAT ACT GCT TGC GCG AAC  
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 V V P S S K G R \* \* I H Y T A C A N  
 S S H P A R D A S E F T I L L A R R T  
 R P I Q Q G T L V N S L Y C L R E Q  
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 S K G P S K G Y R K R H S A I R M I  
 H N V Q A R G T G N G T V P S V C \*  
 T I \* R P E E R V T E P S Q R Y A N  
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 AGT GAT TTA CCT GGG CTC TTC CCG TAC CGT TTC CGG TGA CTG GCG ATA CGC ATT  
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 V I Y L G S S R T V S G D W R Y A L  
 \* F T W A L S P V P F P V T G D T H Y  
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 \* P Q S I I R D L R A S M V P I V P  
 E R S P S S E T \* A L A \* \* P F \* Q  
 N V A P L H N Q R P S R E N R S D S  
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 I H G W E (M) I L S R R A L I T G I T E3  
 F T A G R \* F C L R G E R S L R E S L  
 S R L G D D S V \* A S A H Y G N H W  
 ---  
 W S P V \* R A R \* S M S D P Y S T K  
 G P H C K G R A D V \* R I R I H L R  
 A L I A S V E R T L E D F G S I F D  
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 S E W C A G R A G R M P A T V G P C  
 R N G A R A G P A V C P R R S A P A  
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 G P C G L P S R R S A P G S S G S R

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 T R T S E W \* A A T C W T R R A \* S  
 P G H P S G E R R L A A G P D R E P D R  
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 A T S C D Q G V S I \* L R P A R D N  
 Q Q R A T R G W R S R C G R R G T T  
 S S D L L G A G G L D V V E A G Q R  
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 L L S S S P A P P R S T T S A P C R  
 C C R A V L P H R D L Q T P R R P V V  
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 T G T E Q F C G V T A A S T V P L P  
 R G P R R S A A W R Q R P P S R C P  
 E D R D G P L L G G N G R L H G A L  
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 R P G L L E A A H R C R G G D R Q G  
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 T S R I S S A M R M V A P S L L E R  
 H A A S A P P W G C \* P P A \* C N G  
 T H Q P H Q L G D A D R R P E A T G  
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 V C C G C W R P S A S R R G S A V P  
 C A A D A G G H P H H G G A Q Q F P  
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 V V L L P T G R K \* \* A E V E S I N  
 S W W C R R G A S R D P R W R P S T  
 P G G A A A D R A E I L G G G R L H  
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 G P P A A A S R A S I R P P P R R C  
 D H Q Q R R P A L L S G L H L G D V

P F T R S D G C L S A V G K W G R L  
R F P A P T G A S R P W A R G G A C  
E S L H P L G R L A L G R G E V R A  
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F G K V R E S P Q S E A T P F H P R  
S E R C G S P R A R A P R P S T R A  
R K G A G V P A E R G H A L P P T A Q  
G \* P T A L A N P C \* M T C F \* R S  
G R R P P W P T R A S C P A S S G R  
A G V P H G L R E P V V H H L V V A  
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P L R G G Q G V R A L H G A E L P R  
D Y P I N A T L P I R N L W S D G I  
T T R S T R P \* R S G T \* G R T V S  
L R V P H E R D A P D Q E V V L \* R  
CTC AGC ATG CCC TAC AAG CGC CAG TCG CCC TAG GAC AAG TTG GTG CTC AGT GGC  
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E S Y G M F A V S G I L F N H E S P  
S R T G C S R S A G S C S T T S H R  
V V R D V R G Q R D P V Q P T R V T D  
R P G S N T V R L T D S P T A A T F  
G P G P T R \* A C P T A R P P R R S  
D P A R L E D R A L H R E P H G G H  
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47097 47106 47115 47124 47133 47142  
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I R G P E F V T R K V S L G V A A V  
S G A R S S S R A R C R S G W P P \*  
P G P G V R H A Q G V A R G G R R E  
S P R I S L S R S P L R S A S R S Q  
A P G S P C A G A P C G P P P V R S  
L Q A Q H V L E P Q A V Q L R F A V  
TTC GAC CCG GAC TAC CTG TTC GAG GCC GAC CCG TTG GAC CTC CGC CTT GCG CTG  
47151 47160 47169 47178 47187 47196  
AAG CTG GGC CTG ATG GAC AAG CTC CGG CTG GGC AAC CTG GAG GCG GAA CGC GAC

K L G L M T M L R L G G N L E A E R R A T  
S W A \* D W T S S G W A T P W R R N A T  
A G P D G Q A P A G Q P G R G T R L

P K A P S \* T R P M V I I S A W S S  
P S R L P S R A R C S S S A R G P R  
P A E C P V V H A A H R H H E G L V

ACC CCG AAG CGT CCC CTG ATG CAC GCG CCG TAC TGC TAC TAC GAG CGG GTC CTG  
47205 47214 47223 47232 47241 47250

TGG GGC TTC GCA GGG GAC TAC GTG CGC GGC ATG ACG ATG ATG CTC GCC CAG GAC

W G F A G D Y V R A G M T M M L A Q D  
G A S Q G T T C A A \* R \* C S P R T  
G L R R G L R A R H D D D A R P G R

G S S R T R P V P I V W R T R S R T  
A P P G R G R C R S \* G G P A R D P  
L R L V E D E A G P D G V P H A I Q

CTC GGC CTC CTG GAG CAG GAG CCG TGG CCC TAG TGG GTG GCC CAC GCG CTA GAC  
47259 47268 47277 47286 47295 47304

GAG CCG GAG GAC CTC GTC CTC GGC ACC GGG ATC ACC CAC CGG GTG CGC GAT CTG

E P E D L V L G T G I T H R V R D L  
S R R T S S A P G S P T G C A I W  
A R G G P R S P R H R D H P P G A R S G

S K A K A C T P S S Q R S W T S T S  
P N R R R A R R A P S A R G R P P P  
H I E G E R V D P Q V P A V V H L H

CAC CTA AAG CGG AAG CGC GTG CAG CCC GAC CTG ACC GCG CTG GTG CAC CTC CAC  
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GTG GAT TTC GCC TTC GCG CAC GTC GGG CTG GAC TGG CGC GAC CAC GTG GAG GTG

V D F A F A H V G L D W R D H V E V  
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G F R L R A R R A G L A R P R G G G

E R S S R G A S T S S S Q A S R L R  
S G A A A G P P P P V A R R R G S G  
V G P Q Q A R R L H F Q E A G V Q A

CTG AGG GCC GAC GAC GCG GGC CGC CTC CAC CTT GAC GAG ACG CGG CTG GAC TCG  
47367 47376 47385 47394 47403 47412

GAC TCC CGG CTG CTG GCG CCG GCG GAG GTG GAA CTG CTC TGC GCC GAC CTG AGC

D S R L L R P A E V E L L C A D L S  
T P G C C A R R R W N C S A P T \* A  
L P A A A P G G G G T A L R R P E P

A R C F S P Q F G S T E N S S S T A  
R E A S A R S S A R P R T R P V P R  
A S P L L E A P L G L D R E L F Q D

GCG CGA GCC GTC TTC GAG CCG ACC TTC GGG CTC CAG AGC AAG CTC CTT GAC CAG

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 A L G R S S A G S P R G S R S R N W S  
 R S A E A R L E A R G L V R R G T G R  
 M I T S L S R R R S V S L S S A A P  
 W S P R C R G A G A \* R C H P R R R  
 G H H D V A V Q A Q E G V T L V G G  
 CGG TAC TAC CAG CTG TCG CTG GAC GCG GAC GAG TGG CTG TCA CTC CTG CGG CGG  
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 GCC ATG ATG GTC GAC AGC GAC CTG CGC CTG CTC ACC GAC AGT GAG GAC GCC GCC  
 A M M V D S D L R L L T D S E D A A  
 P \* W S T A T C A C S P T V R T P P  
 H D G R Q R P A P A H R Q \* G R R R  
 S A T R S C A P R H H A E R C A L D  
 R P R E R V P R D T T L R G A P W T  
 A L G N E F L G T Q P S G G P L G P  
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 G E A V L E Q A G L W \* A S R Q A R  
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 R G R S R T G R S V (V) S L P A G Q V S  
 A A E C S C S G E G R L R V Q R V D  
 P P R A R A R A R G E S A Y R D S T  
 R R G R V L V L G G R P P T G T P R  
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 G T R L E D V P E G P A G G G R L A  
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 R R H P T \* R S T R G T S R R R A T  
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 TCG CCG GTG CGG AGT TCA TCG ACT GGT TCG CCC GGT GCT CCG CCG CCG CGC AGT  
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 R R C G V H R L V R P V L R R R A V  
 A G A E F I D W F A R C S A A A Q C  
 P H R P R R Q G L Q P S P P E V G V  
 R T V R A G S V S S R R H R N S A S

G P P S A P A S R A S I A T R R R  
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 GCC GGG TGA CGC GGG CGC CGC TGA CCG AGC TGC GGC GAT GGC GGT TCG ACG CCG  
 A G \* R G R R \* P S C G D G G S R T P  
 P G D A G A A D R A A A M A V R R R  
 R V T R A P L T E L R R W R F D A D  
 R S V E R V L G S G E E G D L A Q P  
 V P F R A C S D P A K K A T S P R R  
 C P F G R A R T R L R R R R R P G A  
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 ACA CGG GAA ACC TCG CGC ACG AGT CCG GAG CCT TCT TCG CCG TCG AGG GCC TGC  
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 H G K P R A R V R S L L R R R G P A  
 T G N L A H E S G A F F A V E G L R  
 H A G T V P R D G L P A L G D D V L  
 T R V L \* P G T G S H L W G M M L W  
 P A C W N R A P G R T S G A W \* \* G  
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 G A H Q L R A G P R V E P A H H Q P  
 V R T S Y G P V P E W S Q P I I N Q  
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 G S I P M R P M S T L S T S P T G C  
 A P S R C G R C A P \* P P R R R E A  
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 A G D R H P R H A G Q G G R R R S A  
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 A E H L G L D L G A V V V A D L Q R  
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 T A S C R P R S S P A T T T A S S C  
 L P R A G Q D R A R Q P Q P H P A V  
 C L V Q A K I E P G N H N R I Q L S

R G D L G G A A V V G A D V L A A A  
 G V T W A V R L L \* V R M W W P R L  
 A S R G P W G C C S C G C G G P G C  
 GCG GCT GGC AGG TCC GGT GGG CGT CGT TGA TGT GGG CGT AGG TGG TCC CGG CGT  
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 A D R P G H P Q Q L H P H P G P Q  
 P T V Q A T R S N Y T R I H Q G R S  
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 V R \* R S N K V L A P A P R V R T S  
 C G N D P T R \* W P R R P G C G P P  
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 D Q L G L L A R P K Q A L A V A V H  
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 S L L A C L Q S W \* P H E E R A S R

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A	A	P	C	E	R	S	S	R	C	R	G	V	G	Y	G	A	P
H	P	Q	A	N	E	A	A	G	V	D	G	S	A	T	G	Q	R
CAC	GCC	GAC	CCG	TAA	GAG	CCG	ACG	AGG	CTG	TAG	CGG	GCT	CGC	GCA	TGG	GAC	GGC
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GTG	CGG	CTG	GGC	ATT	CTC	GGC	TGC	TCC	GAC	ATC	GCC	CGA	CGC	CGT	ACC	CTG	CCG
V	R	L	G	I	L	G	C	S	D	I	A	R	R	R	T	L	P
C	G	W	A	F	S	A	A	P	T	S	P	D	A	V	P	C	R
A	A	G	H	S	R	L	L	R	H	R	P	T	P	Y	P	A	G
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G	R	Q	L	H	R	L	Q	R	H	G	G	D	G	G	P	A	L
CGG	CGC	GAC	TTC	CAC	GGC	CTC	GAC	TGC	CAC	TGG	CGG	CAG	CGG	AGG	GCC	TCG	CTC
49041				49050				49059			49068			49077			49086
GCC	GCG	CTG	AAG	GTG	CCG	GAG	CTG	ACG	GTG	ACC	GCC	GTC	GCC	TCC	CGG	AGC	GAG
A	A	L	K	V	P	E	L	T	V	T	A	V	A	S	R	S	E
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R	A	E	G	A	G	A	D	G	D	R	R	R	L	P	E	R	G
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C	R	G	H	P	R	R	A	T	R	R	R	P	R	R	R	S	R
V	V	G	T	R	D	G	R	P	E	A	A	L	G	D	D	A	V
CTG	TTG	CGG	GCA	CGC	CAG	CGG	CGC	GCC	AAG	CCG	CCG	CTC	CGG	CAG	CAG	CCG	ATG
49095				49104				49113			49122			49131			49140
GAC	AAC	GCC	CGT	GCG	GTC	GCC	GCG	CGG	TTC	GGC	GGC	GAG	GCC	GTC	GTC	GGC	TAC
D	N	A	R	A	V	A	A	R	F	G	G	E	A	V	S	G	Y
T	T	P	V	R	S	P	R	G	S	A	A	R	P	S	S	A	T
Q	R	P	C	G	R	R	A	V	R	R	R	G	R	R	R	L	R
A	S	S	S	L	G	S	T	S	A	T	*	T	E	R	G	V	P
P	A	A	P	S	G	P	H	R	R	P	R	R	R	G	A	W	R
L	R	Q	Q	L	A	R	I	D	V	R	D	V	D	G	Q	G	G
CTC	CGC	GAC	GAC	CTC	TCG	GGC	CTA	CAG	CTG	CGC	CAG	ATG	CAG	AGG	GAC	GGG	TGG
49149				49158				49167			49176			49185			49194
GAG	GCG	CTG	CTG	GAG	AGC	CCG	GAT	GTC	GAC	GCG	GTC	TAC	GTC	TCC	CTG	CCC	ACC
E	A	L	L	E	S	P	D	V	D	A	V	Y	V	S	L	P	T
R	R	C	W	R	A	R	M	S	T	R	S	T	S	P	C	P	P
G	A	A	G	E	P	G	C	R	R	G	L	R	L	P	A	H	R
S	C	W	S	Q	I	T	R	A	R	R	A	P	F	C	T	S	A
V	A	G	R	S	S	R	A	R	G	A	R	P	F	A	R	A	R
S	Q	V	V	V	P	D	H	A	G	Q	A	R	S	L	V	H	E
CCT	GAC	GTG	GTG	CTG	ACC	TAG	CAC	GCG	CGG	GAC	GCG	CGC	CCT	TTC	GTG	CAC	GAG
49203				49212				49221			49230			49239			49248
GGA	CTG	CAC	CAC	GAC	TGG	ATC	GTG	GCG	GCC	CTG	GCG	GCG	GGA	AAG	CAC	GTG	CTC

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G L L H H T T T G S C A R P C A R G E K S T C L  
 D C A T T T T D G S C A R P C A R G E K S T C L  
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 S F G S V A R \* G S V T V A T R R A  
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 G E A A D R P P L P G H R D G G P P R  
  
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 P S G R G S A S P S G S R \* G A S A  
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 G L P R P D A D G E P D L H P A L A  
  
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 V S H P L S P R I M T S R A K V G G  
 C A T P S R P G S \* R R G H R \* G A  
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S Q Y T L H L A P C P Q E A V A P \*  
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D W \* V R C R A G H G C S A T A G Q  
I G K S G A G P G T A A R Q R L V R  
P A S P R H A R A R E R P Q H S P T  
L L L H G I L A L A N E H S T P R P  
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E E Q M A D E R E R V L V A G G T G  
R S R W P M S A S A F S W L V G R G

R P G D A T R P V S R P R L R P P P  
 E H A T L Q A R V Q R R G S G L H R  
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 F V G R Q L C A D L T A A G A E V A  
 S W A V S C A R T \* P R P E P R W R  
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 T S P P R R P G N W P T \* S T P S A  
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 CAT GGA GAC CAA CTG CGC GGT GCC GAC CCG CCG CCT GCT GGA CGC GCT GCG GCG  
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 W R P T A R C R P A A C W T R A C G R G  
 R T G D R R R G G R S L A P T R G S  
 G R A T G V D D V E A \* H Q L V A R  
 V A H R G \* T T W R P E T S S Y P G  
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 S G R T T G I R R Q G P A G G A Q S  
 P G G R R E F D R A Q R A A R K A

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      L  R  G  L  S  S  R  V  V  G  C  T  G  T  G  R  L  T
      W  V  G  S  V  P  G  C  W  E  V  R  G  R  A  G  *  P
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GGT  TTG  CGG  GCT  CTG  ACC  TGG  CGT  GGT  GAG  GTG  TGC  AGG  GGC  ACG  GGG  AGT  TCC
      51039      51048      51057      51066      51075      51084
CCA  AAC  GCC  CGA  GAC  TGG  ACC  GCA  CCA  CTC  CAC  ACG  TCC  CCG  TGC  CCC  TCA  AGG
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      P  N  A  R  D  W  T  A  P  L  H  T  S  P  C  P  S  R
      Q  T  P  E  T  G  P  H  S  T  R  P  R  A  P  Q  G
      K  R  P  R  L  D  R  T  T  P  H  V  P  V  P  L  K  V
      ---
      *  R  R  G  A  A  R  R  R  T  R  G  C  W  R  V  G  A
      D  G  G  G  P  P  V  G  G  R  V  G  A  G  A  S  A  Q
      T  V  A  A  R  R  C  A  E  A  Y  A  R  V  L  P  R  R
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ACA  GTG  GCG  GCG  GGC  CGC  CGT  GCG  GAG  GCG  CAT  GCG  GGC  GTG  GTC  GCC  TGC  GGA
      51093      51102      51111      51120      51129      51138
TGT  CAC  CGC  CGC  CCG  GCG  GCA  CGC  CTC  CGC  GTA  CGC  CCG  CAC  CAG  CGG  ACG  CCT
      ---
      C  H  R  R  P  A  A  R  L  R  V  R  P  H  Q  R  T  P
      V  T  A  A  R  R  H  A  S  A  Y  A  R  T  S  G  R  L
      S  P  P  P  G  G  T  P  P  R  T  P  A  P  A  D  A  C
      ---
      T  R  G  A  G  R  W  P  S  G  A  R  R  S  G  A  Y  R
      R  G  G  P  A  V  G  P  R  V  P  E  A  L  A  R  T  G
      G  D  E  R  R  W  A  L  A  F  R  S  P  S  L  G  R  V
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CGG  CAG  GAG  GGC  CGC  GGT  GCG  GTC  CCG  CTT  GGC  CGA  GCC  GCT  CTC  GGG  CGC  ATG
      51147      51156      51165      51174      51183      51192
GCC  GTC  CTC  CCG  GCG  CCA  CGC  CAG  GGC  GAA  CCG  GCT  CGG  CGA  GAG  CCC  GCG  TAC
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      A  V  L  P  A  P  R  Q  G  E  P  A  R  R  E  P  A  Y
      P  S  S  R  R  H  A  R  A  N  R  L  G  E  S  P  R  T
      R  P  P  G  A  T  P  G  R  T  G  S  A  R  A  R  V  P
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      V  P  R  *  G  A  S  A  S  *  R  P  T  A  R  R  W  S
      S  P  D  D  G  R  R  P  Q  D  A  P  R  Q  G  D  G  R
      P  R  T  T  V  G  G  L  S  I  L  P  A  N  G  T  A  V
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GCC  TGC  CCA  GCA  GTG  GGG  CGG  CTC  CGA  CTA  GTC  GCC  CCG  CAA  CGG  GCA  GCG  GTG
      51201      51210      51219      51228      51237      51246
CGG  ACG  GGT  CGT  CAC  CCC  GCC  GAG  GCT  GAT  CAG  CGG  GGC  GTT  GCC  CGT  CGC  CAC
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      R  T  G  R  H  P  A  E  A  D  Q  R  G  V  A  R  R  H
      G  R  V  V  T  P  P  R  L  I  S  G  A  L  P  V  A  T
      D  G  S  S  P  R  R  G  *  S  A  G  R  C  P  S  P  R
      ---
      A  S  A  S  G  Q  S  W  P  S  R  P  T  C  L  C  I  G
      P  L  H  R  A  R  R  G  P  A  E  R  R  V  S  A  S  A
      L  C  I  G  L  G  A  V  L  P  K  E  A  Y  L  P  L  H
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CTC  CGT  CTA  CGG  CTC  GGG  ACG  CTG  GTC  CCC  GAA  GAG  CCG  CAT  GTC  TCC  GTC  TAC
      51255      51264      51273      51282      51291      51300
GAG  GCA  GAT  GCC  GAG  CCC  TGC  GAC  CAG  GGG  CTT  CTC  GGC  GTA  CAG  AGG  CAG  ATG
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R A D A E P A P A T P G G L L G V Q R Q R G A R C A  
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 P G A R V A A Q V R L H A P G A A E  
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 G Q H G Q R P V P E G E P D P R L R  
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 D G A A V A G L G A V R R L R R R Q  
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 P G R A G G G R D P A A A V G R R  
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 R G H C R A R S P R S G A Q R H H D  
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 R P L L P G P R R A E V V S A V P R  
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 V G E A D Q G D G L R R L R P P A A  
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 L A S R R P L L A R C R R W A P V P

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K S R A S G K * G S A S T P R A N R
R A E R L G S K A R H L R H A G T G
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P R S * P V S R * A G R G P G R D R
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 L R E I A E E A A E N G L K V V V F  
 C A R S L R P P R T G \* R S W C S  
 A R D R \* G G R R E R A E G R G V L  
 A N R S T S A T T R S A S V S A A P  
 R T G P R V P L P V R P A \* P R P R

G R E P V Y Q C H Y A L R E R V R G  
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 R V P G R T Y G S G T R G A H G R G R  
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 P W P R F C A R L V L R P G F L P S  
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 W L P H A P G P P P F P L W A P C A  
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 P G P P S R R R V P C V P A S P A S  
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 R G R A G C R D R G P G V C S G R S  
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P L T G G A R R C C S T S S K A A A  
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S G S V P P A R R Q Q L V D D F A A  
R A A C R P P A D S S S T T S P P  
G Q R A A R P P P T A A S R R L R R R  
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G P \* A T S S A C I S A P P T P R L  
A R D R R V A R A S R P L R L P G \*  
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C A P R R R P S G R R A A A \* A S R  
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T C R P P P W \* S S A S R S S S R P  
H A G R L R G D P L R A A A Q A D R  
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L R C R V G D V D R V E G Q G A V D  
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V V A E V K A R Q A V G L T W R V G

R R G P H E Q L R P H P H H P P L P  
G D E P T N K S D R I H I T H P C L  
A T K R P T R P T A S T S P T P A S  
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 P G A G D R A S P G G \* R G R P V R  
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 A H A S T R M P L F Q L A L G P T E  
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 S T C C R S G C S S A \* \* R R A S A  
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 R C T A P A P T R \* S S S S A G T C  
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P R R T P S S R K A W P V R A R  
H D G R R R P G Q G L F E A H L G  
I T E E D A L V A K G L S S Q T F G

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M V S S S A R T A L P R E L C V K P  
W S P R R R G P L C P G N S A \* S P

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G G Q P R G A D A Q G G D A H D V P  
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P P C G R P A S A C P P S A W S T G

R R G R C S R P T \* A P R V G W V C  
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N K K R P L K K S N (M) S A \* S G V R

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X15

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G Y P G P T S G Y L I R T R T C A S  
G M L V R H R G T C F G L V P A R V  
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T H K D P V S T R T K S E Y G C T H  
P I R T R C R P V Q N P S T G A R T

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Q Y F G I V S R S M R G T F S A F S

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 \* \* K P I T L R D I R P V N D A N E  
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 E G V L A V L E V C A V A S G D G S  
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 P G V V Y E E A H A L Q R G V G E E  
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 V A D R G A M T E K K A D A I V A V  
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N A V K P A V A N M S L G G G A D T
T P S S R P S P T C P S A A A P T R
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N Y G S V L D L F A P G S S I T S A
T T A P S S T S S P P V R P S P R P

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C	L	R	R	P	A	A	T	R	A	R	G	S	W	D	*	D	D						
A	Y	V	G	P	R	Q	L	E	L	G	G	Q	G	T	R	T	T						
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L	A	A	R	H	R	V	P	T	R	P	T	A	R	T	T	H	V						
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G	A	G	A	R	R	R	C	P	L	R	P	G	S	P	P	P	T						
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T	R	P	A	E	G	W	A	R	R	A	P	P	T	G	L	*	A						
P	V	P	H	R	G	G	L	G	E	L	L	P	H	G	W	S	R						
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H	Q	A	S	P	A	R	V	G	V	P	G	C	D	R	V	A	P						

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 M L R R W G A Y P H G P A V A Y G G  
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 L P R T P P T H G G A T V P T L V R C  
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 K G T C R G V S A R S D R R Q H A A  
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 E Q G L P A A P G L V S V G R R P G  
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 L L A Q G C R R S E D G H P P A R P  
 S G C R L G L S R A G G V G W L G  
 R G V V C G L A V R V G V G G C A  
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 G C A H A R A G G G G R S \* W R R P  
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 R R R H A H A H P H H R G I T T F G  
 A A G M R T R T P T A G S P P S G

G W K T G A G R G G S V M R G T T R W  
D G N R G A E G G A \* W E G L R V G  
T G M E D R R A G R K G N A W D Y A  
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V P I S S R L A P R L P F A Q S Y A  
S P F R P A S P P A Y H S P S R T P

N G G G P G A A R V L L V T G T D M  
T G A A R G Q R G F W S C P V R T W  
L E R R G A R G G S G P A R Y G H G  
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S S R R P A L P P E P G A R Y P C P  
V P A A R P C R P N Q E H G T R V H

G G G G P G W C G C P D G S C G W P  
V E A G R V G V A A L T G P A A G L  
Y E R G G S G L L R L P G R L L G L  
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TAT GGA GGC GGG GGG CCT GGG GTT GTC GGC GTT CCC AGG GGC CTC GTC GGG GTT  
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C F A C P W Y G G G D G Y G C P A G  
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P L V R L A L V R W R R W V R V A C  
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G R T R R A S T R H R R H T R T A H  
A E R A G P V P A T V A I P A R R T  
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P A G P G Y A Y W W G \* P E W L G \*  
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R G R G R V R \* R R R A W R R G P G R C  
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R P P R T R Q R R R H R R P G P R H

R Q K R G A T P S T S P S I A S A C  
G R S E A P R L A P A P V S R A P A  
D E A K Q R G Y P Q H Q P S Q D R Q R

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S S A F C R P \* G W C W D \* S R W R  
P L L S A G R R A G A G T D R A G A

I L F R P S R P L P M A I A P E T S  
S \* S A P R A L C P C P S L R N P A  
L D L L P A L S A L A H R Y G T R H

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58599 58608 58617 58626 58635 58644

CAG ATC AAG AAG CGG GGC GAG CGA GGC AAG GGC ATG GCG ATA GCC GGT TCG GTG

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R S R S G A S E A R A W R \* P V R C  
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S P A S D S S C G R C R C P R A S P  
L L R R T R P V D G V A V H G L H L

S T T S P K L S A A L P S P V G \* A  
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G V D D V A E L V G R A A L A G G V

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 G R W P R S S R S P S R C G P P R P  
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 P R Q G R L L R L G D R H P G G R G  
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 P T T W T R C P A P P R T T A R C S  
 L R R G R G A L L R R A R R R G V R  
 T T V R G P P A K G P S S S S V R V  
 P R \* G G R R R R G P R R V S \* G S  
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 G R H P P R R R L P G R R R T H P D  
 A S S L H \* A S E A A V G H V G P G  
 R R P C T N R A R R R \* A M S V Q A  
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 R R G Q V L R A L R R Y A M D T W A  
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 T G S S A S T \* \* K M G V R W L Q R

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P Y R T T R T S T T S S R P A R A G
R T G R R G R L L L H P D P P E L A
V P D D A D V Y Y F I P T R Q S W R
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E A V A L D G A Q E A G R L V V A L
K P S R S I V Q R N P A V C S S P L
S R R G R S S * R G T R R R A P R C
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L R R P R D H L P V R R H A G R R Q
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S V P E S R L S G V V S S A S W T A
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A D R L T A Q R P D D T R R R P G R
L T G S L R S D P T T L D A D Q V A
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R G R R S W R R R C R A T R P A P P
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CCT TCC TCT CCG CGA CCA ACG CCG TCG ACA CCG CGC TGT ACG AGG AGC CGG AGG
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L P L R D Q R R R H R A V R G A G G
F L S A T N A V D T A L Y E E P E E
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V R L V V Q G R V L G P R L V D V G
Y A S S S R A A F L A Q A F S T W A
I R P P R G P R S C P R P S P R G R
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AAT ACG CGG AGG ACG ACC TGG CCG CGA ACA AGG CCT GGG CGA AGG ACG TCC ACG
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N T R R T T W P R T R P G R R T S T
I R G G R P G R E Q G L G E G R P R
Y A E D D L A A N K A W A K D V H A

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H E A L L D L A A R V C S A S P R R  
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 V L G E Q I E G C A D T A G R R A P  
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L S P P L P P P R L T H A S T H A R

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S E G G S G G G L N V \* A E V \* A R  
A R A A A A A A S M C E R R C E R G

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\* L P S F T G A Y L G G C A C T M V  
S Y R P S L A Q T F G E A R V L \* \*

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L \* R G E S A C V K P S A R T S H H  
Y S G E K V P A \* S S P P H A Q V I T

R T I R Q G K S A R S L G P N G P Q  
D L S E R A K A Q V P C G L T A L S  
M S H N E P R Q K C P V V W P Q W A

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Q Q R Y L S I P A A L S K R H A A P  
N S D T C A S P L P W H S E T L L R  
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L L S V Q A D G S G Q \* L S V S S R

T G A R R P H D G C S S R \* R N V A  
H V Q A D R T I E A L L D D V T \* Q  
T Y R R T A P S R R L F I T L P E S

CCA CAT GGA CGC GCA GCG CCC ACT AGA GGC GTT CTT CTA GCA GTT GCC AAG TGA

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V Y L R V A G D L R K K I V N G S L					
C T C A S R V I S A R R S S T V H C					
-----					
V A C G G G T G P W S G					
W R V G A E R G L G P D					
G G C V R R G D W A L I					
-----					
CGG TGG CGT GTG GGC GGA GGG CAG GGT CCG GTC CTA GG 5'					
59787	59796	59805	59814		
GCC ACC GCA CAC CCG CCT CCC GTC CCA GGC CAG GAT CC 3'					
-----					
A T A H P P P V P G Q D					
P P H T R L P S Q A R I					
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Figure 109

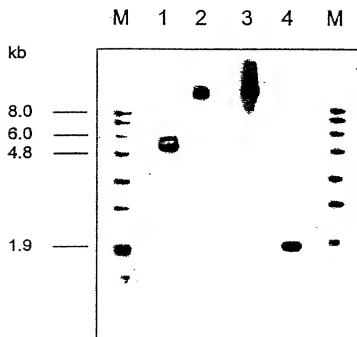


Figure 110



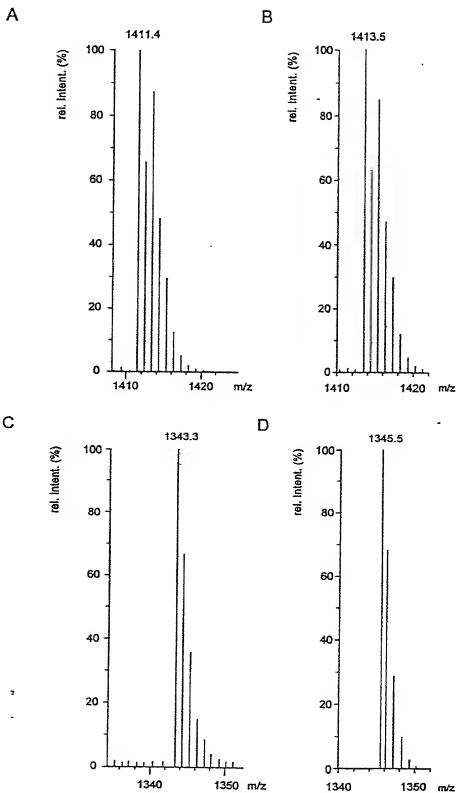


Figure 111

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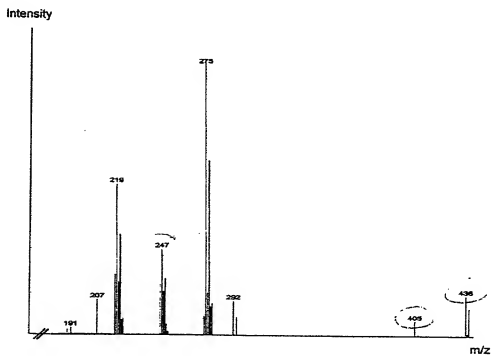
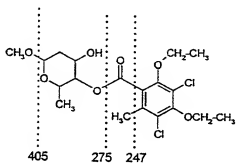


Figure 112

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